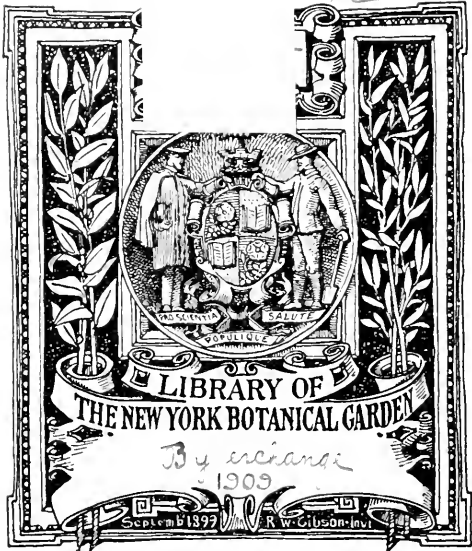


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A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

VOL. IV.

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INDEX TO VOL. IV.

NOTE—References to all the common fruits, vegetables and flowers made under "The Month's Work," "Herbaceous Border," Nuts, &c., are not indicated.

A

Alpine garden in May (illustrated), 87.
American goose-berry mildew, 22.
Apple, Branley's seedling, 43.
Apple mildew, 186.
Apple-sucker, the, its treatment (illustrated), 33.
Apple tree, a profitable, 3.
Arbor day, 166.
Artificial manures, 72.

B

Bees, 16, 48, 64, 70, 96, 112, 128, 144, 159.
Begonias, tuberous-rooted (illustrated), 97, 113.
Books, new. See "Reader."
Border, the annual flower, 2.
Bulbs for window boxes, 157.

C

Campanula fragilis (illustrated), 11.
Carolina acanthifolia (illustrated), 150.
Carnations (illustrated), 154; The winter flowering, 188.
Cecylogyne Mooreana (illustrated), 25.
Cordylone, a fine (illustrated), 103.
Cottage gardens, vegetables growing in, 5.
Crab apples, 5.
Current topics, 10, 26, 28, 57, 74, 89, 102, 114, 138, 149, 167, 186.
Cut flowers in vases, 134.
Cyprus, Lawson's, 40.

D

Distribution of plants in gardens, 180.

E

Escallonia exoniensis, 6.
Exhibitors, hints to:—Shows and showing, 84; Flowering trees and shrubs, 85; Roses, 85, 107; Sweet peas, 86; Hardy fruits, 106; Vegetables, 108; Rhododendrons, 115.

F

Fading leaf, the, 179.
Flower garden, colour and arrangement in, 50.
Flowering currants, the, 73.

Flowering shrubs, 90.
Forestry station, Avondale (with plan), 100.
Formalin as a fly specific (illustrated), 124.
Fruit crop (1904), 120; Detailed schedule, 122.
Fruit show in Dublin (illustrated), 168, 170.

G

Gardening, in praise of, 130.
Glasnevin Botanic Gardens, notes from (illustrated), 23, 74, 96, 110, 150, 165.
Gloxinia, the, 152.
Graft hybrid, an alleged new, 128.
Greenhouse gardening, 165.
Gyphophyllia paniculata fl. pl. (illustrated), 165.

H

Hardy annuals, cultivation of, 52.
Hardy shrubs, 6.
Hedgerow timber and shelter belts, preservation of, 56.
Herbaceous border, 37, 64, 66, 70, 96, 128, 160; Mulch for, 15.
Hollies, propagation of, from berries, 39.
Hollyhock, the, 23.
Home, the making of our (illustrated), 1, 17, 39, 49, 65, 82.
Hymenauthera crassifolia, 23.

I

Industry, another new, for Ireland, 19.
Irises, early, 57.

L

Lawson's cyprus, 40.
Leguminous crops, inoculation of, 21.
Lilacs, the, 164.
Lime, 4, 10.

M

May notes, 70.
Mildews of the gooseberry and apple, 186.
Month's work, the (illustrated), in the flower, fruit and vegetable garden, 12, 28, 44, 60, 70, 91, 100, 125, 141, 157, 174, 189.
Mushrooms (illustrated), 160.

N

- Narcissi, hybridizing, 181.
 Native plants for our gardens (illustrated), 103.
 New plants from China (illustrated), 169, 177.
 News items, 16.
 Notes, 8, 9, 25, 41, 96, 73, 80, 82, 86, 110, 119, 120, 124, 149, 151, 159, 164, 166, 181, 188.

O

- O'Brien, Charlotte Grace, with portraits, 104.

P

- Physianthus albens (illustrated), 7.
 Pinks and carnations, 154.
 Planting, new ideas in, 24.
 Poetry, 86, 110, 153, 185.
 Poppies, 75.
 Pot-ty experiments, 50.
 Primula capitata (illustrated), 100.
 Primula marginata (illustrated), 75.

R

- Reader, the, new books reviewed and illustrated, 10, 26, 70, 93, 118, 173, 192.
 Rhododendron yunnanense (illustrated), 181.
 Rock gardens, dwarf shrubs for, 20; Making and planting of (illustrated), 91.
 Rosa sericea var. pteracantha (illustrated), 183.
 Roses, 3, 32, 30, 53, 60, 85, 107, 116, 130, 150, 163, 182.
 Rose canker, a new disease (illustrated), 91.
 Rose Mrs. John Bateman (illustrated), 162.
 Rose, new seedling Hybrid Tea, with coloured plate, 8.
 Roses, propagation by cuttings, 140.
 Royal Horticultural Society of Ireland, 6.

S

- Sage, 151.
 School gardening, 137.
 Sea-kale, 147.
 Seeds, sowing of, 172; Pure-bred, 184.
 Shelter belts, 56.
 Shrubs, 110; Dwarf for rock gardens, 20.
 Small holdings, 80.
 Snowberry, 7.
 Soil hygiene, 88.
 Sophoras (illustrated), 117.
 Spiraea arifolia (illustrated), 137.
 Spraying fruit trees, 144.
 Spring-flowering shrubs, 43.
 Sweet peas for the garden, 42; for 1910, 183.
 Sweet violets, 135.

T

- Thuja hedges, 81.
 Tourist's pleasant experiences, 155.
 Tree planting, precautions in, 145.
 Tulip, the (illustrated), 131.
 Two gardeners (illustrated), 152.

V

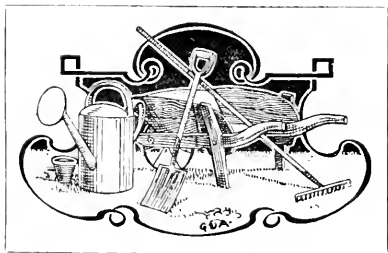
- Vegetable growing in cottage gardens, 5.
 Vegetable marrow, cultivation of, 58.
 Viburnum rhytidophyllum (illustrated), 177.
 Viburnum macrocephalum (illustrated), 170.

W

- Weeping birch at Blackrock (illustrated), 166.

Z

- Zenobias (illustrated), 146, 147.



JAN., 1909.

TWOPENCE.

Irish Gardening

Contents

	PAGE		PAGE
The Making of our Home	1	Royal Horticultural Society of Ireland	6
The Annual Border	2	The Reader	10
Roses	3	Current Topics	11
Lime	4	The Month's Work	12
Crab Apples	5	Bee-keeping	16
Vegetable Growing in Cottage Gardens	6	News Items	16
Hardy Shrubs	6		

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JANUARY
1911

The Making of our Home.

By CHARLOTTE G. O'BRIEN.

MANY are the lovely places in Ireland of which the tourist knows nothing, and of them the wide-spreading, far-reaching, blue-glancing distances of our grand Lower Shannon are most worthy of loving praise, or, at least, I thought so, for the fates of my life made me a true lover of the Shannon before I well had sense to know my right hand from my left.

First, in mere babyhood, from the heads of the high towers of Dro-moland Castle, Co. Clare, I remember the beautiful blue distances, but am not sure if the river itself showed; anyhow, the river country left on my mind a vision of distances of blue and purple. Then later, when we lived in Co. Limerick, ten miles inland, the first joy of our lives was

a long day spent on the shores here; therefore no sooner did I, at twenty-one, begin to handle my own money than a vision of a cottage at Foynes, my own building and my own forming, began to hover before me. If it had not been that a man-of-war was permanently in Foynes at the time I was able to take the work in hand I fear my too wise friends would have gone further than remind me that "fools build houses," &c. However, my folly gained the day, and proved good wisdom in the long run, and after all we "fools" who take a little bit of the surface of our country and make it beautiful and

useful, and yearly spend money maintaining honest labour, seem to me to do a work of more real use and charity than "slumming" after the people who have been forced into the towns owing to the neglect of the possibilities of country life. I own it makes me feel very bad when I see friend after friend taking money and life and families away to London, leaving our

country that so needs loving help bare and desolate, and our people unemployed and uncultivated. I know one little mud hovel, it has two feet of garden, it is hardly fit for human habitation, but the roses and other flowers make my mouth water as I drive by, and I say the man or woman who does that on a big scale or little is doing that which is pleasing in God's

sight and worthy of human honour, and God bless him or her.

Having got permission to build after much to-and-fro, I had to pitch on a suitable field and get it—no easy thing in Ireland at that time. But I was in luck, and secured a little five-acre (Irish) basin on the hillside close over the river and sloping south, covered with furze and bracken, otherwise quite bare. We built the house, turned the plough over the lovely bracken field, and put in unlovely potatoes for two or three years, then meadowed it. The furze still remains a standing joy and expense.



A HOME IN THE MAKING (FIRST STAGE).

"A bare little house perched on a hill-side."

only to be conquered by tree planting. I have come to the conclusion that the way to fight furze is to plant with laurels. They can be simply layered in as cuttings (a long cutting, then lift sod with long spade, lay cutting under sod both ends out, beat the sod down hard). Laurels in our climate grow very rapidly and very strong—they form a dense and black mass, under which both furze and seedling turze would soon die. The laurels make splendid firing when a few years old, and if ultimately the land is wanted they are easily grubbed, whereas the furze is cut and grubbed one year and up the next—a hopeless business!

I found myself, in 1870, with a bare little house perched on the hill-side, with very little room on the east, rocky hill north, but a nice fall to the south and rise to west. Then I was obliged to let the house, and it was not till 1878 I was really able to begin the garden. About this time this old photograph was taken. The garden was largely hewn out with a pickaxe; not that solid rock was too near the surface in most parts, but the whole soil was a mass of "pencil slate," and I remember well my brother saying to me—"You'll never be able to make a garden here! There is no earth, its all chips of rock!" However, he was used to good limestone, heavy land, and did not realise the possibilities of those same "chips of rock" for tree, shrub and flower growing.

[To be continued.]

The Annual Border.

By WILLIAM DAVIDSON, Carton Gardens, Mavnooth.

IX a collection of annuals we have a most effective group of flowering plants, and there is a wonderful combination of colour, form and perfume in a border composed of those useful garden flowers. To make a successful show it is absolutely necessary to form some definite scheme and to take into consideration the space to be occupied. There are two classes of annuals, hardy and half-hardy. Some growers recommend autumn sowing of the former, and they support their theory by pointing to the fact that seeds falling, self-sown from the plants, quickly germinate and surpass in strength those sown by hand in spring.

It is not always possible to carry out autumn sowing however, and where slugs and other destructive vermin abound it is perhaps advis-

able to allow the annual border to remain in a rough dug state during the winter months.

The half hardy-annuals require our first attention in the spring, and I think it is a good plan to sow asters, antirrhinums, salpiglossis, marigolds, chrysanthemums, scabious, and all such in hotbed frames. If they are sown rather thinly in lines they will require no transplanting until ready for planting out.

By sowing on a gentle hotbed about the third week in March, and after germination to admit air on all favourable occasions, they will be fit for planting whenever congenial weather sets in.

During March and the first fortnight of April is the best time for sowing the more tender annuals. They may be sown thickly in boxes, and, when fit to handle, pricked out into boxes and gradually hardened off until ready to remove to their final quarters.

The nicotianas, nemesias, verbenas, some asters, browallias, zinnias, helianthus, &c., are best treated in this way. Sweet peas are successfully grown in boxes and planted out. Some prefer sowing in turf to avoid disturbing the roots at planting, but if seeds are sown in lines two inches apart across the boxes in ordinary loam they can be handled without any damage being done.

A ridge of sifted ashes surrounding the lines of seedling after planting has the effect of keeping off slugs.

The hardy annuals are usually sown where they are intended to flower, about the first week of May, and as half-hardy plants are to be planted out beside them later on, care has to be taken to see that colours blend, and due attention given to height and form.

Shirley poppies, nigellas, larkspurs, lupins, and eschscholtzias represent a few suitable hardy annuals. Those, when they have made some growth, require to be well thinned out to prevent the plants becoming weak and spindly.

Toward the end of May, as a rule, a good many plants grown as annuals may be planted out, such as pentstemons, calceolarias, chrysanthemums, and violas; those, like the other occupants of the annual border, require to be planted in bold groups, with due attention to colour effect, and later, when the less hardy plants are put out, it is necessary to fit them in so that the colours harmonise with the plants already in the border.

In an annual border there is a wealth of

colour. Taken separately, the colours are often too strong and glaring, and unless care is taken to blend and tone down those with softer shades the effect is entirely lost.

Care, with regard to mixing of colours, is perhaps never more to be considered than when dealing with annuals where variety is so great and where flowers predominate over leaves.

Roses.

By O'DONEL BROWNE, M.D.



I hope that the recent announcement of the Royal Horticultural Society's intention to hold a rose show in July may be an extra stimulus to new members to show as much as they are able. Exhibiting is a most fascinating pursuit, and "once bitten twice eager" may not be a wrong motto to many

next July. I do not mean to convey the idea to any novice that he will win every class he shows in, but it will give him a good lesson in the way of exhibiting cut roses. I often have wished that under an exhibitor's card there was left a space for a competent judge to write a short criticism on each exhibitor's stand; but, please remember, I said a *competent* judge. Such a plan as this criticising exhibitors' flowers, especially when done by a first-class man, would be most useful in promoting better knowledge and culture of this glorious flower. A couple of years ago, at a fruit show held in Ballsbridge by the Royal Horticultural Society, there were shown boxes of fruit packed for market, and on each box was to be found a short note signed by the judge. I noticed that visitors and exhibitors took especial notice of this particular class. It would also give visitors and intending exhibitors some useful hints by pointing out what is amiss with any stand which, in their eyes, should have won the prize; also, I think the Royal Horticultural Society should offer a prize to young members for judging. They could judge either before or after the real chief justices had given their award, and to the competitor who most often judged exhibits correctly the prize should go. This scheme was carried out at a show of cattle here, and it was surprising how many entered for the prize. Were this scheme tried, local secretaries could more easily get good judges for their shows instead of relying too much on several "old birds" that are always to be seen. Judging is an irksome job when too much of it falls on a man's shoulders; besides, what are we going to do for judges when these old stagers no longer care to fly about the country? Never having been at a July show belonging to the society, or not having an old schedule of one of its shows beside me, handicaps me in the matter of giving a hint or two to any novice desirous of trying his hand at showing. It will be a grand

opportunity to anyone wishing to begin, as I feel sure there will be plenty of classes for garden or decorative roses, which most people grow and care more for than individual specimen blooms in boxes. But the staging of such bunches is no easy matter, and requires much practice and care. It is here that I look to the ladies for help to show us how neatly roses can be shown. At the London rose show nothing, in my opinion, can excel the beautiful way in which the ladies do their baskets of roses and dinner table decorations. Let us hope we shall see some of our ladies following their lead. Truly much depends on what varieties of flowers we show, but I think it should be made a rule to have two classes, one for those who have grown the flowers used and one for exhibitors, allowing them to purchase their table decorations. Varieties like Dorothy Perkins, Mrs. O. G. Orpen, Irish Elegance, especially the latter, lend themselves beautifully to table decorations. The one *desideratum* is to make your table, when flowers are arranged, look as light as possible. London exhibitors do not try and blend colours. Supposing, for instance, they use Mrs. O. G. Orpen (hybrid damask) for centre they keep all the table done with this variety and nothing else. Also, instead of mixing ferns, &c., they use growths of the same rose and *not of any other* to lengthen the arrangement. Nothing can be more odious than a flower of one variety and the growth of another. When it comes to cutting these flowers another wrinkle may be of use. For, say the show is to-morrow, it is no use, if you possibly can manage it, to cut open flowers to-day. This last remark requires explanation. Supposing I was going to show roses to-morrow in Dublin, and could not cut and travel up on morning of show, I should cut early to-day, and put them in water in a cool shed. The cut sprays must only have mere buds on them—by to-morrow they will be open. By leaving them in water for some hours before travelling, if you do not intend bringing them to the show in vessels containing water, they will have imbibed a certain amount to carry them until you reach the show. When at the show to-morrow the flowers open they will show those glorious yellow stamens and anthers which are *sine qua non* to all single roses, instead of "black eyes." Another good thing by early cutting is that roses with apricot or flesh colours will not bleach in the shed, and they are safe from rain. Should they show signs of flagging at any time a very small spraying with a fine rose on the syringe will help to keep both the roses and your flagging hearts alive until the judges have passed.

✿ ✿ ✿
 A PROFITABLE APPLE-TREE.—The remarkable fruitfulness of an old apple tree was brought under my notice during the past season. This tree is in the possession of Mr. John Fahy, Kilmanhan, Piltown, and is of the Old Brandy or Golden Harvey variety. It is about 90 years of age, and measures, at one and a half feet from the ground, ten feet in circumference, in perfect health, and carrying a heavy crop of small, clean fruit almost every season. This past season it gave a crop of over 13,000 apples, which were sold in Carriek-on-Suir at from 6d. to 2s. per 100, according to quality, the produce from this one tree making a total of £5 10s. nett. Formerly Mr. Fahy always sold the fruit on the tree, and never got more than 17s. for same.
 I. DEARNALEY.

Lime.

By M. J. JAMISON, Associate of the Royal College of Science for Ireland.

LIME (calcium oxide) is obtained by burning limestone (calcium carbonate). The heat produced by coal, turf, &c., drives off the carbonic acid gas (CO_2), leaving behind CaO , ash, and other impurities. The percentage of lime (CaO) depends on the quality of the rock used for burning. Some limestones contain 68 per cent. of the carbonate, whilst "clayey" limestones contain about 68 per cent. Again, some limestones contain much magnesium carbonate brought about by the replacement of the lime by magnesium. When lime contains 4 per cent. of magnesium (MgO) or over it is considered as harmful to plant life as it is slow in taking up CO_2 . A pure limestone contains in every 100 parts by weight 50 parts of lime and 44 of carbonic acid gas. Lime is of a caustic nature, and combines readily with water, forming slaked lime $\text{Ca}(\text{OH})_2$, which is slightly less caustic. When much water is added to slaked lime, milk of lime is produced. Since lime is soluble to a small extent in water, if milk of lime is allowed to settle a clear liquid remains on the top, termed "lime water." By blowing one's breath into lime water the carbonate is precipitated owing to the lime taking up carbonic acid gas. The causticity of lime, both unslaked and slaked, enables them to burn up organic matter in the soil, setting free ammonia from nitrogenous compounds, and also to act as disinfectants. Their alkalinity enables them to neutralise acids in the soil, making it more suitable for bacterial and plant life, besides sweetening the herbage. By their physical action sandy soils are made more compact, heavy clay soils are opened up by changing them from a "one-grain" state to larger aggregates, thus making the drainage better, allowing air to pass through, and finally rendering them more easy of cultivation. If a stiff soil is allowed to settle under water-logged conditions, there comes a time when the grains are so packed together that no water percolates through; but if lime water is added, water begins again to flow owing to the aggregation of the grains to form larger particles. Lime sets free potash from combinations in the soil, and also when absorbed, or rather absorbed by the soil—that is, if we add a potash solution to a soil,

and after a time wash all the potash possible out of it, then, by adding lime in solution, potash will again appear in the filtrate. We must not, however, consider this as a chemical replacement, but rather a physical effect, caused by the absorptive capacity of the soil grains for certain substances in solution.

When lime is applied to the soil it is sometimes left in small heaps and allowed to absorb moisture from the air to slake it, but the more common practice is to throw water on successive layers and shovel into a heap. Too much water renders the mass pasty and difficult to spread. The slaked lime is spread on the land at the rates of from one to two tons per acre, and harrowed in. Owing to its slight solubility part may become washed out of the soil during heavy rains. However, in dilute solutions the soil can absorb 94 per cent. of the lime, but if the solution is made twenty times stronger 54 per cent. only is absorbed. Of late years much of the burnt lime has been ground, and is sold under the name of "ground lime." In this state it is easily spread by machinery, and is more caustic in its action than slaked lime. The cost of grinding is about 6s. per ton and of bagging 3s. The bags generally burst owing to the slaking of the lime, and become of no value. Ground lime should be bought under a guarantee of at least 85 per cent. of CaO . Many samples only contain 50 per cent., whilst as much as 22 per cent. of magnesium may be found. Often unburnt limestone is ground owing to defective burning. This is by no means harmful to the land, but it is not economical, as 56 cwt. of burnt lime contains as much lime as 5 tons of the unburnt, pure sample. So far ground lime is expensive, but 5 to 6 cwt. per acre is considered a fair dressing every year.

Gas lime is often applied to land. When fresh it contains 28 to 40 per cent. of water, and on an average 34 per cent. equivalent of CaO , very little of which is in a caustic state. It is applied at the rate of two to four tons per acre. The lime, having been previously used as a purifier for coal gas, contains many sulphur compounds, some of which are injurious to plant life. However, when gas lime has been exposed to the air for a few months these are oxidised and rendered harmless.

Chalk is a soft limestone, and is applied to the surface of the soil, thus exposing it to rains

and frosts to break it up. It contains 52 per cent. equivalent of CaO.

In many districts near the seashore shell-sand is applied. It is variable in composition. One sample used analysed 46 per cent. CaO. This being a natural material, heavy dressings can be applied to heavy soils without injury, thereby rendering them easily worked. It can neutralise acids (mineral and organic) in the soil. On heavy soils and those containing much peat the shells are exhausted in 8 to 10 years, whilst on dry hillsides they will last for 15 to 18 years. Greater benefits might be obtained by grinding them finer; at least smaller dressings could be more evenly distributed. The results obtained are far ahead of those from lime. The builder burnt limestone to drive off CO_2 , and having done so mixed sand, stones, and water with it, knowing that the whole would be bound together by the absorption of CO_2 . The wall made is an adulterated limestone. The only advantages gained by burning limestone are the driving off of 8½ cwt. of CO_2 per ton, thus lessening cartage from the kilns, and a finer state of subdivision when slaked. Lime in slaking absorbs about one-third of its weight of water, so that usually the cartage on the fields is about the same for slaked lime and ground limestone. Samples of ground limestone are now on the market. By applying this material on soils deficient in lime we are using the natural substance which has made limestone soils warm, sweet, and of great value for growing stock and crops, a material not easily washed out of the soil, which can neutralise mineral and organic acids; is a plant food; forms the base for nitrification and precipitated soluble phosphates. Experiments carried out under the Lancashire County Council show more profit from its use than from ground lime.

[To be continued.]

Crab Apples.

CRAB-APPLES as ornamental trees are not used as commonly and extensively as they might be, considering their great beauty. In the spring they are covered with a profusion of snow-white blossoms and in the autumn with abundance of ruddy or other brightly-coloured fruits. They should be planted in groups of six or more in such a position as to have a background of green to show off to full advantage their wealth of flower and fruit. The effect is altogether lost if they are planted

singly or dotted about on a lawn. There are several varieties that may be used in the garden or on the fringe of woodlands, and they are all cheap, considering that really nice specimens for planting can be purchased from nurserymen at from 1s. 6d. to 2s. 6d. each. The generic name of the apple is *Pyrus*, and *P. baccata* (the Siberian crab) is one of the most ornamental of the genus, as it produces a rich harvest of brilliant red fruit. But there are other species equally splendid in their floral display and autumn fruitage, and any one desirous of introducing patches of colour to border or shrubbery would do well to arrange for their introduction during the present planting season. Selection may be made from the following:—The "Dartmouth Crab" has large crimson fruits; "John Downie" forms a fine tree with red tinted flowers and large festoons of radiant fruit; Veitch's Scarlet is very handsome; while in *Neidwetzkyana* both the leaves and the fruit show a purple tint. The yellow Siberian crab has yellow and Mrs. John Seden orange-yellow fruit, spotted and stained crimson on the sun-exposed side. The fruit of these crabs, if one cares to use them for such purposes, may be made into excellent jam, while crab-apple jelly, as every one knows, has a great reputation as a preserve. We strongly recommend the planting of crab-apples, even if only for the sake of the brilliant note of colour they introduce to the garden during the later months of the year.

Vegetable Growing in Cottage Gardens.

By P. J. GRAY, Horticultural Instructor, Schools of Domestic Economy.

IN many parts of the country, and especially in the west, there is still great room for improvement in the keeping of cottage gardens. Some of the people are slow to appreciate the benefits to be derived from the growing of a variety of vegetables, and well-cropped gardens in this respect are more the exception than the rule.

The cottager should aim at making the most of his garden, and this can only be accomplished by keeping it well cropped, not allowing any of it to remain idle during the season, and growing a variety of vegetables. Many of the county councils now give prizes for well-kept cottage gardens, and all cottagers should be ambitious to gain a prize. The growing of a variety of vegetables does not mean that each of them should have an equal portion of the garden; a small plot or bed of each is sufficient, and early potatoes, fruit trees, &c., may be grown in quantity.

The first thing to see to is that the garden is properly fenced, for if the poultry and goat can roam at will through it all our work is vain. Next to a wall, a good whitethorn hedge makes the best fence, both as a fence and to give shelter. The quicks may be planted any time from the present up to the end of March, except during severe frost. Prepare the ground by digging in a good dressing of well-rotted farmyard manure. Plant in a double row, the latter six inches apart, and the same distance between the plants in the row. Some years must elapse before such a hedge would be of any

value as a fence, and in the meantime a temporary fence must be erected, not alone to protect the garden, but also the young hedge, for if the tender shoots of the latter are eaten off by goats or other animals the hedge will never come to anything.

Having secured the garden against trespassers, the next point for consideration is what to grow, and the following should find a place in every garden, however small—viz., peas, broad beans, kidney beans, parsnips, carrots, white turnips, onions, leeks, celery, lettuce, cabbage, cauliflowers, broccoli, Brussels sprouts, rhubarb, parsley, sage, thyme. There are many other wholesome vegetables, but for a cottager the above are enough to start with. In most cases a small package of seed will be sufficient, but seed should be obtained from a reliable source.

The arrangement of the different crops in the garden will claim attention, and it is often found that certain parts of a garden are better suited for growing certain vegetables than others; thus, part of it may be higher and more exposed to sun and air. Such a situation is well adapted for growing early peas, beans, potatoes, cauliflowers, and for seed beds. The lower portion would be suitable for parsnips, turnips, rhubarb, cabbage, &c. A systematic rotation of crops is necessary in the garden as on the farm; and one great advantage of rotation of crops is that it is a great means of keeping injurious insects and fungoid disease in check.

To conclude, let no time be lost in preparing the garden for cropping in spring, and remember that the two great essentials to success are deep tillage of the soil and the use of suitable manures. Well-rotted farmyard manure should be used, digging it in deeply, and this may be supplemented later on by the use of artificial manures, wood ashes, &c.

Hardy Shrubs.

Escallonia Exoniensis.

I HAVE been much interested in the notes "Hardy Shrubs" in the November issue of IRISH GARDENING.

There cannot be the least doubt about the present importance of this subject, increasing variety in the shrub life of gardens being everywhere noticeable, and nursery catalogues are adding yearly to lists already replete with names of beautiful, and none too common, hardy shrubs; the writer of the notes alluded to above most timely mentions a fact that is worth remembering—viz., "hardiness in this instance must be taken as an elastic term, for a shrub may be hardy in one locality and not at all so in another."

This complex question of hardiness would be to a great extent resolved for many readers if others who—in various districts—have experience in their cultivation would contribute notes about rare or uncommon subjects, giving an idea of their hardiness by a comparison (not necessarily odious) with some well known and generally grown shrub that suffers more or less from the severity of our winter and spring frost and wind, and yet almost always make good the damage during the ensuing growing season—*Escallonia macrantha* and *Laurestina*, for instance. I am sure the Editor would welcome

such matter as being of interest and value to many engaged in Irish gardening.

Thinking thus I have ventured to write this, and mention a shrub by no means common that would commend itself to many if its merits were better known, and trust that other readers with longer and wider experience will give of their abundance.

Escallonia exoniensis, said to be a hybrid, is here—in a light gravelly soil of varying depth, resting on gravel, and a position open to the south and south-east—a hardy evergreen and handsome flowering shrub. It attained a height and width of 12 ft. and 8 ft. respectively in seven years, being about 20 inches high when planted in this by no means sheltered garden, its white flowers—in form and arrangement similar to those of the well known *E. macrantha*, but smaller—are borne on almost every branchlet in summer, and thence till November, and sometimes later. It is rarely flowerless. The leaves are smooth, glossy, and dark green, smaller than and without the stickiness and odour peculiar to those of the latter species. It forms a handsome and well furnished specimen with little or no pruning, and will readily lend itself to restrictive treatment if space or taste require or demand it; and indeed where *E. macrantha* is used to form screens, hedges, &c., *E. exoniensis*, being equally hardy, could be similarly employed, and if both were combined in such uses the result would be very pleasing.

The plant above described has never suffered the slightest injury from seasonal severity, but others exposed to unbroken east winds are sometimes more or less injured—in common with the better known species mentioned—on the side so exposed, but so far the injury has been partial and made good the following growing season.

This plant has seeded freely here, and self-sown seedlings came up around and beneath it for the past three years. They vary in colour of flower, being mostly pinky red. E. C. D.

Royal Horticultural Society of Ireland.

AT a special council meeting held at the society's offices, 5 Molesworth Street, Dublin, December 3rd, a nice vase of carnations came from the gardens of Colonel the Hon. C. F. Crichton, Mullaboden, Co. Kildare. These were set up by that expert carnationist, Mr. W. J. Mitchison, to whom was awarded a first-class cultural certificate on the unanimous vote of the council. The varieties consisted of perfect blooms of *Britannia* (scarlet) and *Mrs. Burnett* (blush). From an amateur's greenhouse came specimens of the curious and interesting climber, *Physianthus albens* (see illustration), bearing green, corrugated, irregularly shaped fruits approximating in size to a lemon. The grower had raised the plant from seed sent from South Africa some five years ago, and the plant, after being cut back at this season, annually furnishes the roof of a somewhat lofty house, producing the peculiar fruit in profusion, which, by the way, is not edible. As showing the good temper of the season and locality, Mr. Gerald Carroll, gardener at Sutton House, sent in a collection of various things cut from

the open, including flowering sprays of the Macartney Rose, *Abutilon andraclonic*, *Eupatorium Weinmannianum*, *Solanum jasminoides*, *Cyanthus panicus*, and some interesting berried subjects, including the very distinct *Hymenanthera crassifolia*, studded with its little pearl-white berries. A vote of thanks was accorded to the contributors. The following new members were elected—viz.: Mr. R. D. Bolton, Rathnasur, Bray, proposed by Mr. D'Olier; Captain J. S. Bartram, Balure, Ballybrack, proposed by Mr. G. M. Ross; the Marquis of Headfort, Kells, Meath, proposed by Mrs. Greer, as was Mrs. J. O. Jameson, Dollond, Clonsilla; Mr. J. S. Mason, Temple Bar, Dublin; Mr. T. Moorhouse, The Gardens, Luttrellstown; and Mr. R. Byrne, 212 Great Brunswick

do. The annual general meeting proved quiet and peaceful, specimens of *Catagopus shilleighiensis* not being visible, the report and balance-sheet, on the motion of Mr. G. M. Ross, seconded by the chairman, being adopted without dissent. Keen interest, nevertheless, was lent to the proceedings by a contest for seats on the council, 128 ballot papers being received, the chairman and members present having to possess their souls in patience until the scrutineers had completed their task. Eventually, Sir John Nutting was able to announce that Messrs. Watson, Henderson, D'Olier, McDonough, and Canon Hayes, the retiring members, retained their seats on the council, whilst the two vacancies had been filled by the election of Lady



Photo by]

PHYSIANTHUS ALBENS IN FRUIT.

Reduced to one-sixth linear.

[T. Price.

Street (the two latter as practical members) being proposed by the secretary.

Arrangements were made for holding the annual general meeting, which took place at the Institute of Civil Engineers, 35 Dawson Street, on the 17th Dec., Sir John G. Nutting, Bart., presiding. Immediately prior to the opening of the meeting a special council meeting was held to consider the offer of the Royal Dublin Society in the matter of holding the Spring Show at Ballsbridge, the offer of the Arts Industries Hall, with a grant of £50 towards the show expenses, being accepted. The show will be held on Wednesday and Thursday, the 21st and 22nd of April. This is, perhaps, a little late for the flower which comes before the swallow dars, and perhaps not; that depends on the controller of the weather bureau, and if he tries to upset exhibitors' calculations they will, doubtless, find ways and means to circumvent him, as they often

Alfreda Bourke and Mrs. Greer. So for the first time in its long history of eighty years the Royal Horticultural Society of Ireland has the co-operation of ladies on the executive to further its interests. The secretary will be glad to receive advertisers' applications for space in the 1900 schedule at an early date, from whom particulars may be had at the society's offices.

E. KNOWLDIN.



THE snowberry is a well-known bush, seen at its best when growing to about six feet high. It is very decorative when covered with the white globular fruit that give it its popular name. The old wood, and especially that in the centre of the bush, should be persistently cut out, so as to encourage the development of fresh, vigorous young shoots that will bear abundance of flowers.

“IRISH GARDENING.”

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Our Coloured Plate.

New Seedling Hybrid Tea Rose “His Majesty.”

THIS fine rose, exhibited for the first time at the London Show in July, was awarded a card of commendation, and again in September, when it gained the gold medal. The parentage, as given by the raisers, Messrs. Samuel McGredy & Son, of Portadown, are two unnamed seedlings—one derived from Horace Veruet × La France and the other from Horace Veruet × Anna Olivier. Looking carefully at the flower one can notice all the traits of these parents—the depth of petal due to A. Olivier, the colour due to Horace Veruet, whilst La France has given her charming odour to grace this fine flower. In some respects the flower and habit of growth resembles “Frau Karl Druschki,” and by some rosarians it is supposed to be a red Druschki. In growth “His Majesty” is strong and sturdy. The wood is smooth, with few thorns, and the foliage is of that spreading nature which shows off the flower so well. The colour of the flower is dark crimson, shaded deep vermilion crimson. The blooms are upstanding, and is an exhibition as well as a garden variety. It will be sent out in the coming spring, and is well worth growing in quantity, as the colour is such an acquisition to the Hybrid Tea class.

O'D. B.

1909.

WITH the present issue IRISH GARDENING enters its fourth volume. To the numerous contributors who have so well and so willingly helped us in the work we set out to do—the establishment of a “home-made” journal for the advancement of horticulture in Ireland—we offer our sincerest thanks. At the same time, we do not forget that thanks are also due to a large number of readers whose sympathetic interest materially helped toward

the growth and development of the journal, either by widening its circle or by the contribution of notes and suggestions. It may be added that we are always glad to receive communications from our readers, as well as photographs of their homes or gardens. We wish all (contributors and readers) a prosperous and “Happy New Year.”



THE *Gardener's Chronicle* for December 19th contains an article by Mr. S. Arnott descriptive of the extremely interesting garden of Mr. W. E. Gumbleton, of Belgrove, Co. Cork.

THE director (Mr. F. J. Chittenden) of the Research Station of the Royal Horticultural Society of England has been carrying on very extensive tests with “nitro-bacterine” at Wisley. A very lucid report of the experiments is given in the recently published journal of the society.

WE regret to record the death of the Earl of Annesley at Castlewellon on the 15th December last. The deceased Earl was an enthusiastic gardener, and his death is a sad loss to Irish arboriculture. Castlewellon, as most of our readers know, possesses one of the richest collections of shrubs and trees in the country. Lord Annesley took a practical interest in the development of this journal from the first, and to him we were indebted for the several illustrations illustrative of notable trees at Castlewellon that have appeared from time to time in our pages.

IN the chrysanthemum audit for 1908, made by the *Journal of Horticulture*, four varieties headed the list of the best fifty Japanese with an equal number of votes. These were Lady Talbot (soft canary yellow), F. S. Vallis (canary yellow), Reginald Vallis (purple amaranth), Mrs. A. T. Millar (white). Of new Japanese varieties Splendour (crimson red, gold reverse) was voted the best, the next two being the Hon. Mrs. Lopes (rich yellow) and Mrs. C. Penford (rich yellow, shaded crimson).

THE English Board of Agriculture has issued, in the form of a supplement to their monthly journal, a bulky report on the food of some British birds that should prove interesting to many of our readers. It is compiled by Mr. Robert Newstead, who is a well-known authority on bird-lore; but as the inferences are mainly, if not entirely, drawn from local observation (Cheshire), one is inclined to doubt the universal application of his conclusions. A committee of the British Association for the Advancement of Science is at present engaged on this particular research, and it will be interesting to compare the two reports when the committee publish their co-operative results.

THE JEW'S MALLOW (or *Kerria japonica*) is one of our most useful common shrubs. The double-flowered form is the one to possess, its rich golden rose-like blooms appear in April or May, and are very welcome. The shrub grows quickly. The only pruning required is the removal of weak or crowded branches, and this may be done after the flowers have fallen.



Photographed in October (Size reduced One Half)

Seedling H. T. Rose
"HIS MAJESTY"

Raised by
SAMUEL MCGREY & SON
The Nurseries
PORTADOWN, IRELAND

THE use of nitrates in the nutrition of a plant is to supply the element nitrogen necessary for the formation of albuminous food substances. How is the nitrate molecule broken up, or, in other words, what particular force is employed to liberate the nitrogen from its associate elements within the living plant tissues? Some recent researches show that the work is done through the action of a special nitrate-reducing ferment or enzyme acting in the presence of a soluble carbohydrate such as sugar, and that the action takes place, mainly at least, in the green leaf.

SOME interesting experiments have been recently made to test the effect of ether upon the germinating power of old and new seeds, including tomato, turnip, cucumber, cabbage and wheat. The results seem to show that etherisation in all cases hastens germination. It seems, moreover, to put "new life" into old seeds. In these particular tests only about one-third of the untreated old seeds germinated, while quite one-half of the duplicate etherised batches germinated. It should be noted that a hot-house temperature (about 75° F.) seems to be necessary for the success of the process.

HE comes—he comes—the Frost Spirit comes! and you may trace his footsteps now
On the naked woods and the blasted fields and the
brown hill's withered brow,
He has smitten the leaves of the grey old trees where
the pleasant green came forth,
And the winds, which follow wherever he goes, have
shaken them down to earth.—*Whittier.*

SEEDS with hard testas or shells slow to germinate can be very materially aided by immersion in boiling water for 10 or 15 seconds. The dry, hard seeds of *Canna*, for example, are, we believe, usually submitted to this treatment by gardeners before sowing in heat. Some trials with the seeds of *Acacia podalyriaefolia* treated in this way germinated in twelve days, while others of the same lot, untreated, did not germinate for three months.

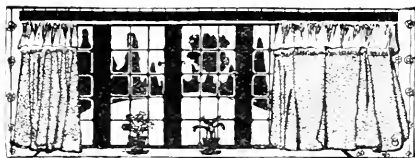
To secure an early crop of asparagus a French cultivator recommends the use of earthenware tubes about 1 to 3 inches in diameter and 8 inches in length, which are to be placed over the shoots as soon as they appear above ground. The tubes are filled with fine, loose earth. When the tips of the shoot appear at the top of the tube, the tube is lifted off, the earth falls away, and the shoot can then be gathered. It is said that this method will bring the asparagus a month earlier than by the usual mode of culture.

MR. I. DEARNALEY writes—"As one hears so much of the advantages of root-pruning strong growing varieties of apples, the following particulars may be of interest to the readers of your valuable paper:—In Feb., 1904, Mr. Wm. Murphy, Whitechurch, Carrick-on-Suir, planted 30 bush-trees of Bramley's Seedling. These made a very strong growth from the first season, and in Nov., 1906, one of the strongest bushes was lifted, rooted, pruned, and replanted under my supervision. During this year this same bush made a fair good growth, and produced *three stone* of good quality fruit, which were sold at 2s. 2d. per stone, the other 29 bushes only producing

ten stone, or on an average of about 5 lb. each tree, which were sold at the same price. This leaves a clear gain on the root-pruned bush of over 5s. Needless to say, Mr. Murphy now believes in root-pruning."

POTASH is essential for the proper growth and development of crops. There seems to be a close connection between the amount of available potash and the rate of carbon assimilation, or, in other words, the making of starch in the green leaf depends upon the presence of potash in the cell sap. It has been found by analysis that the amount of potash in the ash of a burnt plant is comparatively greater in the leaves and twigs than in the roots, showing that it is utilised more in the light, exposed parts of the plant than in the parts not so exposed. In cases where there is a deficiency of available potash in the soil the amount of starch or sugar in the plant is considerably below the average.

HERR MÖLISCH, in the *Umschau*, has been drawing attention to the method of accelerating the growth of plants by means of warm baths. The horticulturist is ever on the watch for new dodges whereby he may be able to produce flowers or fruits at times when they are "out of season." It has long been known that plants require periods of rest. The potato, for instance, likes to sleep the whole winter through. But it has been found that this long sleep may be dispensed with. If potatoes be exposed to a temperature just above freezing-point for a couple of weeks after they are harvested the long sleep will be found to be unnecessary. Others have tried exposing plants to the stimulus of ether. It has been found that if during the natural period of rest a branch of lilac be exposed for a couple of days to ether it will immediately begin to grow. But ether is expensive compared with warm water, and its use in the greenhouse lacks the element of safety. The top of a rooted lilac-bush was placed for one hour in water at from 88 deg. to 90 deg., and then in a greenhouse at about 60 deg. In forty days the bush was in full leaf and flower. Another bush which had been placed in the house without the preliminary bath had its buds only just opening. In the case of catkins, six days after the bath they were many times larger than before, while unbathed branches remained unchanged. And the odd thing is that if after the bath the plants are left in the open air the stimulus lies dormant for even as long as a month. If then placed in the greenhouse they behave as if they have just come from the bath. The duration of the bath varies with the plants, but it is not often prolonged for more than twelve hours. The high temperature creates a demand for oxygen, and the water prevents free access to the necessary gas. Normal respiration is checked, and the buds are injured. Eighty-six degrees is high enough for the gooseberry and the hazel, whereas the birch requires a fever temperature of 104 deg. Some plants must be bathed just after the fall of the leaf, but others are unaffected until later. At the end of the natural period of sleep the bath will even stay the growth. An autumn bath acts at once on the male catkin, but does not affect the leaf buds. They sleep a deeper sleep than the flower buds. Chemical changes must be set up before the bath will stimulate them, and its effect is not secured until January.—*Westminster Gazette.*



The Reader.

ROSES AND ROSE-GROWING. By Rose M. Kingsley. Whitaker & Co. Coming so soon after such a fine work as the Rev. J. Pemberton's book, Miss Rose Kingsley's book on roses will not be the least unacceptable to any lover of gardens. In fact, the work has taken up a position in rose literature which was long vacant—namely, a small work on the cultivation of roses for garden purposes, in contra-distinction to most works which are written more for exhibitors than non-exhibitors. Clearly and tersely written in all its ways, there is not one single sentence which could be spared from the literature—in fact, we think the book is rather badly cut up, such a clear writer could have given us more instead of cutting us off with such short directions. What we have badly missed in the literature we have more than gained in the coloured plates, of which there are twenty-eight. I have never seen such faithfully-produced coloured photographs before, and Messrs. Swain, the producers, are to be thoroughly congratulated. Altogether, this little book is a most admirable one, and we feel sure it will meet with the success it most cordially deserves. The price (6s.) is within the range of every gardener's pocket, and would make a nice present for anyone. There is a short chapter on exhibiting by the Rev. F. Page Roberts which all exhibitors would do well to study. O. D. B.

THE PERFECT GARDEN. By Walter P. Wright. London: Grant Richards.—This is a book written by a true lover of a garden with the weight of much practical knowledge as its foundation. Its artistic cover contains 477 pages of well printed, beautifully illustrated matter. The coloured plates from the water-colour drawings of Lillian Spannard and E. P. Rowe, with numerous line engravings, give an inspiration as well as a light touch to the book, while at the end of the volume are 19 workable plans. These plans cover all information likely to be required in the constructing of a garden for beauty or for use—dealing with gardens from a quarter to four acres. The book is written in a most readable way without losing sight of the practical side. The writer sets out with a fine understanding of a beautiful and fruitful garden, and with an equal understanding of the amount of untiring care and labour that must be spent upon such to make it and keep it beautiful and fruitful. The book would be an awakening in the hand of most amateurs, and useful as well as interesting to the skilled gardener. There is an exactness about the directions and information of the book—a call for the right thing in the right place—side by side with the love of the beautiful, where a garden truly expresses its maker's loving care.

MEMOIRS OF THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY. Edinburgh.—This is a most interesting, instructive and suggestive publication. The majority of the articles deal with the exhibits displayed at the society's recent international show at Edinburgh, written in a critical spirit by acknowledged experts hailing from different parts of Great Britain. Hence a wideness and freshness of view is introduced that cannot fail to act as a stimulating and directive force to future exhibitors. There are notes and impressions on the vegetable classes, by Alex. Dean; on the flower department, by E. Molyneux; grapes, by Wm. Crump; hardy fruit, by Charles Webster; and impressions on the show generally, by David Thompson. There can be no doubt that the educational value of a show is enormously enhanced by having its results set forth so clearly as is done in these memoirs. The other contents include the text of papers on the dahlia, cool orchids, British ferns and their varieties, planting fruit trees, &c. The booklet is most handsomely turned out, the illustrations being particularly well done, the whole reflecting the greatest credit upon all concerned in its production.

BEAUTIFUL FLOWERS AND HOW TO GROW THEM. T. C. and E. C. JACK.—This serial keeps up the high standard set up in the first two parts already reviewed. The publishers promise to complete the work in seventeen parts.

Current Topics.

By E. KNOWLDIN, Secretary, Royal Horticultural Society of Ireland.

IT is a long time now since every lady in the neighbourhood had a new bonnet for the Dublin Flower Show; when will that time come again? The statement, culled from a letter received from a gentleman in the North (not a hundred miles from Newry), is a fact, indisputable, the question concluding it may be answered literally in the words of poor, mad Poe's raven, nevermore! for the simple reason that the particular species of headgear referred to seems as defunct as the dodo. We do hope and trust, nevertheless, that the dawn of better days is at hand for the octogenarian Royal Horticultural Society of Ireland, and that at the three important flower shows to be held during 1909, if the bonnet is banned we shall see Merry Widow hats galore.

"Current topics, what?" says the gossoon, taking a surreptitious glance at our scribble for this column. Evidently he vaguely links them with the fruit which enters largely into the heavy (no insinuation) part of the season's menu. Well, we cut off that current and switch it on to a parallel line *apropos* of the season still, and though fashions come and fashions go, the old pagan custom of decorating with holly and ivy, like Tennyson's brook, goes on forever. And one feels glad that it is so; that in these days of flying machines and Scarlet Emperor runner beans fifteen inches long, with other celestial and terrestrial phenomena, there is no abatement of the pagan rite. And how cheery it all is this scarlet-berried holly; holly, holly everywhere, but not a spray of the rich golden-fruited variety to be seen

or had for love or money! This should not be, and the opportunity is taken of pressing the claims of the yellow-berried holly on prospective planting.

It is not a far cry from holly to mistletoe, our native parasite, which, too, plays a prominent part in Druidical lore, and still more than holds its own as an osculatory medium twixt the sexes at the season. Of course ere this is in print the season is perhaps over, minus the cause and plus the effect, but the question remains—why don't we grow our own supplies instead of importing from Brittany *via* Covent Garden?

Surely our patriotic collectors might change all that by refusing to be—to be osculated save under the genuine home-grown article. Mistletoe, however, apart from its economic aspect as an industry, is a peculiarly attractive plant in a garden, and the wonder is that it is so rarely seen growing *au naturel*, but now its chief end and aim is happily accomplished; and whilst the berries are still with us anyone possessing an apple tree might put it in the way of a start by smearing the bruised berries in the clefts of the divided stem, or rather just where the limbs spring from the trunk. The finest specimens we have yet met with immediately in our metropolis were seen on some young trees in the rear of the Haddington Road House, then occupied by Mr. Burbidge.

Mr. Burbidge, however, was not so successful with the red-berried mistletoe berries of which were sent to him on two occasions from Tunis, and just at the moment it is doubtful whether a red-berried youngster still exists in the College gardens, inside or out (they were tried both inside and outside), or even in the British Isles. We tried some from the same source on an olive tree (it grows on the olives in Tunis) then under our charge without success.

The old-fashioned Christmas seems now a thing of the past. We cannot alter that, nor do we particularly wish to; that sort of Christmas looks best on the cards

and the almanac which one's grocer diplomatically delivers in spite of the Corrupt Practices Act. It is the sort of Christmas which cuts off the supplies and creates friction when all should be peace and good-will between the kitchen and the garden.

There are, and have been, ample supplies of all things seasonable, and unseasonable too, and never have we seen or sampled better Brussels sprouts than our markets have provided. Yet we well recollect the time when our markets were sproutless, and all credit to an

old friend near Lucan who led the way, and where he led others followed, till now the Brussels sprout is a staple product in season, and one may say out of season, for they now appear soon after mid-summer.

But the market man is a smart man. If you ask him what variety of sprouts he grows (and it is a very superior variety) he will tell you he grows his own selected seed, and if you ask him for a pinch, he — well, you won't get it.

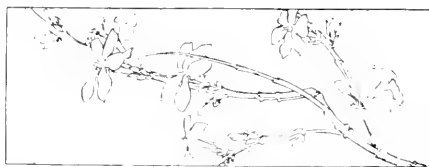
No letters yet in the papers ament that misguided thing, the primrose. Surely it has been plucked by somebody ere this. Anyway, there has been no lack of outside flowers; it is in fact a question whether previous Christmases, however mild, have witnessed so many. Even yet the last of the chrysanthemums is still with us, and

that in the open, but, unlike "The last Rose of Summer," it is not left blooming alone. On Christmas Day one could have a host of species and varieties from lovely flowers of *Genista canariensis* equal to any greenhouse production down to the modest winter heliotrope, which diffused its fragrance for the benefit of *bona fides* arriving at Dalkey Station. And the veronicas! they were and are a host in themselves. "Delightful Dalkey," poor F. W. Burbidge was wont to say, and we think it was the veronicas which had most to do with his descriptive encomium. Banks and hedges, hedges and banks, all in bloom, and this is Christmas Day!



CAMPANULA FRAGILIS.

A beautiful trailing plant, well suited for hanging baskets. Its branches grow from 12 to 15 inches long, which are covered with soft down when young. The flowers are very beautiful, of a delicate blue colour, and are about an inch in diameter. The plants are half-hardy perennials, easily raised by seed sown in spring or autumn under glass, or by dividing the tufts or by cuttings. The photograph is by Messrs. Wills, Stourbridge, by whose kind permission we reproduce it.



The Month's Work

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

PERSONAL.—In making my bow as a new writer of this column in IRISH GARDENING for 1909 to its readers my wish is that the coming year may be to all a prosperous and happy one, and that our mutual exchange of thoughts and ideas may be helpful and encouraging. At this season one's thoughts are retrospective. Successes and failures with this and that in our gardens are recalled, and it is to be hoped experience has been gained to overcome past failures by exchanged methods in the year that lies before us. Gardening has become in recent years such a popular and fashionable recreation that a great improvement is seen in the arrangement of even small gardens throughout the country, and now nearly every month must have its flowers. The disposition of heights and colours, contrast and harmony, is now studied as never before, with a corresponding result in the pleasing and gorgeous effect obtained from early spring to late autumn, without the use of glass, and with very little trouble.

Applied to the flower garden as a whole—be it borders or geometrical-shaped beds—every portion of earth should be made to yield its quota of beauty, from the birth of spring until the ground is frost-bound. By this the enjoyment of a garden is extended and at the same time increased. Again, hardy perennial flowers provide such quantities of cut flowers that their value is recognised everywhere, and to assist in interesting by any small means in our power the culture of kinds that can be grown easily and without undue expense will be the aim that shall be continually kept in view.

SEED ORDERING.—With the Christmas and New Year greetings seedsmen's catalogues will also have been delivered by post, and, doubtless, laid aside till the

frivolities of the season were past. During recent years much labour and money have been spent to make these catalogues complete guides, both to the amateur and professional gardener. That the seedsmen have succeeded there can be no question. What they want in return is early orders; and customers will consult their best interests in making their selections and forwarding same at the earliest possible moment. Later on, when the rush of orders really commences, delay in the execution of some is inevitable, and leads often to confusion. A few novelties may be tried each year without discarding older and well-tried things that have given satisfaction previously.

SHRUBS FOR FORCING.—This is the month that shrubs intended for forcing should be brought under cover. Do not introduce them into strong heat at once. The process must be gradual. A coolinery or peach-house is best, and when the buds commence to swell remove to a warm greenhouse where a temperature of 50 degrees can be maintained. Keep the atmosphere moist by damping the stages and floors, and when watering the plants see that the chill is off the water. Lilacs, *Deutzia gracilis*, *Azalea mollis*, Forsythias, *Praunus triloba flore pleno*, *P. japonica flore alba pleno*, and some of the beautifully coloured Japanese maples are reliable and suitable for making a fine display indoors during the spring months.

ROSES.—The rose family is so varied that, where no rose garden exists, a portion of the garden or a good border should be given over to them. In one way or another they lend themselves to every kind of treatment and position. The rose requires a rich, rather stiff soil. If considered poor, it can be improved by the addition of some good loam, taken from an old pasture field, and well-rotten manure, and the whole dug to the depth of eighteen inches. Plant Hybrid Perpetuals and Hybrid Teas three feet apart. The small-flowering bedding sorts, such as *Hermosa*, will do at eighteen inches apart. After planting, cover the ground with a mulching of stable litter, which should remain as a protection till pruning time in March. Too late planting is often productive of unsatisfactory results, so no time should be lost in having all rose planting completed this month. The Hybrid and Tea kinds are best grouped in masses of distinct colours. Among Hybrid Perpetuals, *Capt. Hayward*, *Gen. Jacqueminot*, *Margaret Dickson*, *Helen Kellar*, the lovely white *Frau Karl Druschki*, and that most charming sweet-scented Irish rose, *Hugh Dickson*, may all be planted in quantity. Then for floriferousness till late into the autumn, I am very partial to the Hybrid Teas. Six grand sorts are *Madm. Abel Chatenay*, *Marquise Lita*, *Mildred Grant*, *Viscountess Folkestone*, *Liberty*, and *Kaiserin Augusta Victoria*. For covering bare fences, rustic poles, or unsightly corners, *Dorothy Perkins* is an unfailing variety in yielding a wealth of pink bloom and glossy, bright-green foliage. Immediately after planting, cut it down to within six inches of the ground, when fresh, strong growths will start from the base.

LAWNS.—A certain amount of care must needs be taken in keeping the lawns in good order. It is a pleasure to see green grass nicely kept. This cannot be on an uneven surface, made so through neglect. In open weather the turf should be lifted, and the sunken parts made good with additional soil well rammed in, and the

turf replaced. Where the turf is poor a dressing of bone meal, 1 cwt. to the rood, may be sown over the surface as a stimulant. Old potting soil and woodashes passed through a half-inch riddle and scattered over the lawn makes a capital dressing. Where moss is troublesome and the grasses weak, a quantity of horse droppings spread over the grass and left on for three weeks, to be again raked off, will be very beneficial, and prove a wonderful reviver. An occasional run over the lawn with a birch broom is useful for scattering wormcasts and giving a neat and clean appearance at this time, when there is not much attraction otherwise.

HERBACEOUS BORDERS.—All arrears of work in this department should be hurried on, and every available opportunity of open weather used to complete the making of new borders or overhauling those already in existence. No borders of the kind should be allowed to stand an indefinite period. The duty of turning them over entails much time, but it is time well spent, and when done every three or four years at most these borders are given new life—when all is lifted, the ground heavily manured and trenched, and replanting done with a knowledge of each plant's height and colour, so that a system may be carried out that will be pleasing when in flower.

WET-DAY WORK.—January is not a month that much in the way of flower seeds need be sown. Preparations for future busy days may be taken in hand. Get all potting material under cover and ready for use. Seed boxes may require repairing; flower pots, seed pans, and crocks washed and assorted; labels of different sizes ready, and a small pot of white lead handy. Stakes of various lengths in convenient bundles should be got ready to hand, and where plenty of hazel bushes are about, no better material could be used. Cut the young growths from the base and take into an open shed, to be made and bundled on wet days when work outside could not be performed.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

THE year just closed has not been a very profitable one for fruit growers generally.

Prospects early in the season were very bright, fruit buds being very abundant; but, unfortunately, the severe frosts experienced during the latter part of April almost ruined crops of damsons, plums, black currants, gooseberries, and pears. Hard weather was the rule also during the period of apple blooming and setting, and was the main cause of the scarcity of apples in many places. Strawberries were a fine crop, but the season of fine fruit was all too short owing to the heavy rains commencing on 13th July. Price of fruit generally was much below the average. Apples, as a rule, sold badly, owing in part to the large importations of foreign fruit and to the depression in trade generally.

Latterly there has been a brisk demand for Irish apples, and at the present time (Dec. 18th) they are selling at from 18s. to 20s. per cwt., and probably will be more very shortly. As our Irish growers do not, as a rule, store their apples, there are very few to be had even at that price. Some, with an eye to better prices, stored most of their late-keeping varieties, consequently they are now reaping a fine harvest. It is a great pity that growers generally do not store their keeping apples; instead, they rush them on to the market long before they are fit for it, and have to sell them at a price perhaps not one half of what could be obtained if kept for two or three months. To illustrate this, the writer is acquainted with a man who bought tons of Bramley Seedling in October at 8s. 6d. per cwt., and at the present time can get about 18s. for them. I think this should be a lesson to growers, and trust they will profit by it.

Apple growing has increased so rapidly in Ireland within the past few years that growers of twenty or more years' standing are becoming seriously alarmed, fearing that when the resultant crops come on the market prices will not be so remunerative as at present, and thus complain that even now, with only an average or below average crop, high prices have not been the rule. However, as planting continues (in spite of grumbling) in these same districts it is evident that it must have paid well in the past; and while foreign apples get such a ready sale in our towns it is also evident that the supply of Irish apples falls very short of the demand. "The increase in the consumption of apples, and fruit generally, has increased wonderfully within the past few years. Fruit shops in Belfast within the past decade have increased tenfold."

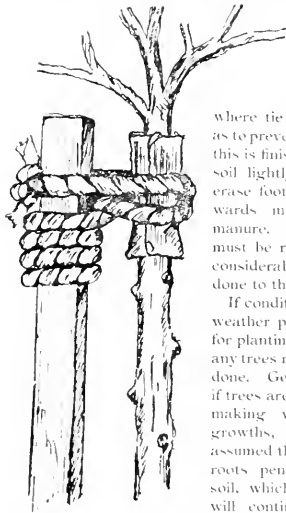
The poorer classes are using more fruit now than formerly, and as its value as a food becomes better known its consumption will increase in consequence. There is not the slightest danger of our markets being flooded for many years to come (at present they are sometimes flooded with rubbish) as there are at least four months in which our markets are entirely in the hands of our foreign competitors, when the home growers might easily dispose of them if they grew enough to do so.

But I would warn growers to pay more attention to the requirements of established orchards, and so try and maintain the quality of

their fruit, so that when the fruit from the younger plantations come on the market they will not have to take second place. There is vast room for improvement in the methods at present generally employed, and if remunerative prices are to be obtained different systems of cultivation will have to be adopted. It is unreasonable to expect ground to produce at the same time, as is often expected, two crops—one of hay and the other fruit. Can fruit of the finest quality be expected when grown under these conditions? Certainly not; and so long as it continues very indifferent fruit will be the consequence.

The planting of fruit trees, if not finished last month, should be completed as soon as possible, provided that the soil be dry; if not, better defer planting till it is so, which probably will be some time now. Never plant while frosty or wet weather prevails. If trees arrive from the nursery during such weather have them carefully unpacked, and plant in some sheltered place until favourable conditions, as to soil and weather, return.

Fruit trees already planted should be secured to a stout stake to prevent rocking and consequent disturbance of their roots, which is very detrimental to their well-being.



Place a pad, made of a piece of sack-
ing or similar
material, between
the stake and tree

where tie is to be made so as to prevent rubbing. When this is finished prick over the soil lightly with a fork to erase footmarks, &c., afterwards mulch with littersy manure. Rabbits and hares must be rigidly excluded or considerable damage will be done to the trees.

If conditions as to soil and weather prevail, as required for planting, root-pruning of any trees requiring it may be done. Generally speaking, if trees are growing rapidly, making very long, sappy growths, it may be safely assumed that there are a few roots penetrating the sub-soil, which, if not checked, will continue to throw a superfluous amount of sap

into the tree and render it useless as a fruit bearer so long as these conditions remain. To obviate this, young trees showing a tendency in this direction should be lifted, preferably early in November, the strong roots well cut back with a sharp knife and be at once replanted, and made secure to a stake and given a mulch.

PRUNING.—The pruning of all fruit trees and bushes during mild weather must be pushed on now as fast as possible. Admirable directions have been given from time to time in these pages as to methods of pruning these, so it is unnecessary to repeat them here. Where wall trees are grown the pruning and nailing up of shoots must be done now, if not already done. The pruning of apples and pears which have filled their allotted spaces is a very simple matter, simply requiring all summer growths (breastwood) to be cut back to within one or two buds of their base, and spurs regulated if getting too long or too thickly disposed over the trees. Plums and cherries require more careful handling, as they produce fruit on young wood as well as on spurs on older wood. Where possible lay in a young shoot of previous year's growth; shorten about one-quarter its length if strong, if weak it may be cut back to within a few buds of its base. Cut away all dead wood, as well as branches devoid of fruit spurs, and so make room for the younger and more fruitful shoots. Have all prunings collected at once and burned; the ashes should be preserved dry and forked into ground round fruit trees.

Forc round all fruit bushes, collect all perennial weeds as work proceeds; at the same time, any bushes requiring aid in the way of manure should be given it—place it round bushes as far as the roots extend, and cover over with soil. All established fruit trees and bushes which have borne a good crop the previous season should be given some aid in the form of farm-yard manure well decomposed. Drainings from manure heaps, cow-sheds and such places form one of the most valuable manures, and may now be given freely to all established trees. Later on in the season it should be diluted with clean water, as it would not be safe to apply it very strong to growing trees.

Any portion of the fruit grounds requiring to be drained should be attended to during the month. There is nothing more detrimental to the well-being of fruit trees than stagnant water. All old drains should be cleaned out to allow the water free passage, or new ones made if required.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

IN the first month of the year plans for rotation and preparation for the new season's cropping ought to be well advanced. But before entering upon details of work it will be well to briefly review the conditions that make for cultural success. Good drainage and thorough tillage, followed by adequate manuring, are the first essentials. Then, remembering the conditions under which our cultivated crops have been evolved, care must be taken to allow them space enough for individual development in land always free from weeds. Suitable rotation of crops must be arranged, and a watchful campaign carried on against insects, fungi and other enemies. Finally, in order to get pleasure and profit out of gardening we must buy good seeds—that is, seeds obtained from selected plants of the very best varieties.

TILLING.—The wetness of last month, in the south at least, has in many instances retarded tilling operations. Where not finished, as weather suits, dig, trench, or bastard-trench all vacant ground. The man with a first prize in view will be wise to trench for it. Nearly every vegetable crop requires about two feet deep of tilled soil at least to perfect it. In this matter of trenching use judgment, so as not to bring sour and barren sub-soil in quantity to the surface. Many writers advocate trenching land; most people interested in gardening read of its advantages, but few people practice it. It means some strenuous labour, and a love of strenuous labour is not over popular in these days. As a physical training trenching land would beat football or mountain climbing into fits. One's digestion would be sadly out of gear when a regular course of it would not restore a wholesome appetite. It is a pity such grand exercise does not become a fashionable craze. But who knows what may yet happen!

MANURING.—A good supply of well made farm-yard manure is absolutely necessary for successful vegetable culture. We will refer to the subject again, but in the meantime Mr. Jamison's excellent article in the August number should be carefully studied.

SLUGS.—We must not wait the attacks of these arch-enemies. Cut them off and destroy them by every known means of warfare. Attack them in front, flank, and rear. Brick or tile edgings in vegetable grounds afford them no harbourage. Hedges about kitchen gardens are a nuisance in this respect, so are uncultivated patches and all untidiness. Old walls in which are crevices and quarters also harbour the rascals; they are also head-quarters for snails. See to the pointing of such walls, whether boundaries or of pits or outhouses. Use soot and lime newly slaked about growing crops and hedges and all lurking places, traps under boards, and with portions of vegetables, such as turnips, &c. Where coarse salt is cheap it has value as a slugicide, but use it with much care, as in quantity it is deadly to vegetation.

FORCING DEPARTMENT.—Keep up supplies of vegetables usually forced. Sow French Beans (*Ve Plus Ultra*) in pots about every fortnight. Place near glass in a temperature not less than 60° F. Give vigilant attention to necessary supplies of asparagus, sea-kale, and rhubarb. We can command steady and abundant supplies of sea-kale and rhubarb where plenty of crowns have been propagated, in their own proper time, for the purpose of lifting and forcing under cover. Any warm house does for this, as a mushroom house, &c., when seasonably attended to—that is, when done in time. At this season asparagus requires brisk bottom heat, and it is the better of the additional top-heat of a hot-water pipe.

HOT-BEDS.—Materials for hot-beds, leaves and stable litter in abundance, ought now to be at hand. We are often practically helpless to push things on without these valuable adjuncts, and plenty of them. Potatoes may be planted in pits (see last month's calendar for method of work). Myatt's old Ashleaf still retains its superior flavour. Alas! that its cropping powers are behind time. Sharp's Victor is always reliable for forcing. Prepare hot-bed, and on it place frame for horn carrots. In about nine inches of sharp, friable soil sow the seed in lines nine inches apart and about an inch deep. A

thin scattering of Wood's Early Frame Radish may be sown broadcast among the lines of carrot, or a few dozen good lettuce plants can be raised in this way if they are not left too long before being transplanted. These will be of sweeter flavour than autumn-sown lettuce.

SEED-SOWING IN HEAT.—People who intend to exhibit must grasp time by the forelock to be ready for summer and early autumn shows. Lose no time in making small sowings, in handy boxes, of celery, cauliflower (Early Erfurt, or Snowball), Brussels sprouts, leek, onions (Ailsa Craig or Cranston's), and lettuce. In all cases be sure to sow thinly in fine, friable soil, and give best position for light in heated structures or hot-bed frames as may be available. Sow tomatoes if steady heat can be maintained. In sowing these be sure to use plenty of drainage with light soil, and sow *very thinly*. Later be careful of the watering pot, so as to minimise the danger of damping off. Lister's Prolific is a good all round variety. The flavour and firm of Perfection are perfection, although it is no new kind, but it is rather shy to bear. The yellow fruited kinds eat well too.

PEAS. First, early peas may be sown in the open, but only in very favourable positions—sunny aspects in friable soil and in sheltered positions. So many enemies are liable to attack this sowing in the open that for the little extra work it is a wise plan to sow the seeds in turves or boxes in frames to transplant later on. William the First Improved is one good kind for this time.

ONIONS.—If soil condition suits and the weather is not frosty towards the end of the month potato onions may be planted. Class the bulbs and give the larger ones the space of about a square foot. The smaller ones produce fewer bulbs and of larger size, and may be planted closer. Plant in well-cultivated and manured land of strong character, just covering the top of the onion and making firm. If the land for seed onions has not been already prepared and manured no further time ought to be lost. Trench as the weather permits, and use a liberal amount of good dung, and leave rough for the present. We cannot give too much attention to the preparations for onion growing. Perhaps (excepting the potato) it is the most important commercial vegetable that suits our climate. When will our farmers and cottiers realise their loss in not growing an abundant supply of this valuable food? I dare say most householders would consume ten times more than they do with great advantage if they had the supply at hand. Horticulturists have taught agriculturists the advantage of sprouting potatoes; they have yet to teach them to grow abundance of onions to save us the loss and the shame of having to import the greater part of our supply. It would make one weep to think on it. Onions are tearful things anyway!



An excellent mulch for herbaceous borders during the winter may be made by mixing charred garden refuse with decayed leaves. If this be spread over the ground so as to well cover the dormant root-stocks it will afford protection during cold weather and conserve moisture during dry weather in the growing season.

Bee-Keeping.

By T. MACTURK, The Orchard, Enniskillen.

Extracting—II.

AFTER doubling drones will hatch out in the super, and the excluder being on they will be unable to get out. Unless released they will die, and become a nuisance to the workers, who will be constantly worrying to get them out. A small opening made in the lower edge of the super box will give them egress to the roof, which can be removed occasionally, or in warm weather tilted for a few days till all have escaped.

Sometimes a cold spell comes on, and all the honey in the doubling box is consumed; if sections are on top they also suffer, and unless precautions are taken they will not be properly filled again. In such a case a few of the best brood frames—those containing most brood and least pollen—should be exchanged into the super, when the sections will get pretty much the same attention as if they were put on over the brood nest in the ordinary way. The same precautions regarding the queen and cutting out of any queen cells must be taken as when doubling in the first instance.

When the heavy flow of honey comes the super soon gets filled up, and more room will be required for the honey coming in before that which is gathered is sealed and ripened and ready to be extracted. A second super of frames is put on underneath the full one, if drawn-out combs are available, if not the brood combs must be raised once more and wired frames of foundation put in their place, not forgetting the queen as before and any queen cells that may be started a few days afterwards. When these operations are performed carefully and at the proper time there is generally no trouble from swarming, particularly if the hive is kept shaded and cool, but if the combs are not examined for queen cells as directed the latter are almost sure to be started, in which case swarming is inevitable—not only that, but the young queen will be excluded in the super, and may become useless before she gets an opportunity of mating. Should the old queen get lost the stock will appear to be queenless, and the owner will be firing off queries to the bee papers and the local instructor to know what is the matter, as it will, of course, be impossible to introduce a strange queen whilst the young one is there. On the other hand, when these little precautions are taken it is marvellous to see the energy with which a strong stock will continue to work in the hottest weather. During the past season I had several gigantic stocks working on three storeys, with two crates of sections on top. They worked like furies right through the extreme heat, and never attempted to swarm. Young queens were raised and mated in the back apartment without trouble and when the flow was over each hive contained two strong stocks instead of one.

As soon as the sections are finished they should be removed. The whole force of bees will then be crowded on the frames, and the ripening and sealing will proceed rapidly. No frames should be removed for extracting until completely sealed, and if they can be

left on for some time afterwards so much the better. The honey will gain immensely in quality. Unsealed honey will be much thinner, poorer in quality, and more inclined to candy than that which is properly ripened. The so-called "ripener" (a long tin affair, provided with a tap) should not in general be trusted to ripen honey. It is only effective when used in a uniform high temperature, and even then is far behind the natural method. In the ordinary temperature of a room it is more calculated to injure honey than otherwise, but it is a very useful utensil when extracting.

News Items.

National Sweet Pea Society.

THE annual meeting of the National Sweet Pea Society was held on December 11th, when Sir Randalph Baker, Bart., was elected the new president, on the retirement of Mr. Cuthbertson, and Mr. Horace J. Wright was elected chairman of committees. Mr. C. H. Curtis was re-elected hon. secretary, and the committee, in recognition of his untiring labours in the interest of the society, voted him a honorarium, accompanied with a well-deserved appreciation of his past services.

The Dublin Seed and Nursery Employees' Association.

THE annual dinner of this active society was held at the Gresham Hotel on Saturday, 12th of December last, when the fifth annual report of accounts and transactions was distributed and the prizes for the year presented to the successful competitors. The after dinner proceedings took the form of speeches (in proposing and replying to toasts), interspersed with songs, recitations and instrumental solos. The report set forth the educational and other work done in the year, together with the text of the two essays that secured the first and second prizes. We sincerely congratulate the association upon their successful efforts and upon having at their command such an untiring secretary as Mr. McDonough has proved himself to be.

Irish Seed and Nursery Trades' Association.

THE annual general meeting of this body was, by kind permission of the Agricultural Superintendent, held in the Royal Dublin Society's Committee Room, Ballsbridge, on Thursday, December 10th. There was a good attendance of members, who discussed with great interest the council's report of the year's work, which, with the statement of accounts, was unanimously adopted. The practice, recently started, of some local show committees charging nurserymen for space at shows was mentioned by Messrs. J. Watson and S. A. Jones. In Dublin and across the water nurserymen's exhibits are eagerly sought for and welcomed, and no charge whatever is imposed. Exhibiting firms are at considerable expense in travelling long distances to shows, and the association is of the opinion that nurserymen would be justified in not exhibiting at those shows where any fee for space is charged. Valuation of greenhouses, &c., and other matters, were before the meeting, and the election of president and council for 1909 took place.

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Irish Gardening

Contents

	PAGE		PAGE
The Making of our Home	17	Notes from Glasnevin	23
Lime	18	New Ideas in Planting	24
Another New Industry for Ireland	19	A New Orchid	25
Dwarf Shrubs for Rock Gardens	20	The Reader	26
Inoculation of Leguminous Crops	21	Current Topics	26
American Gooseberry Mildew	22	The Month's Work in the Garden	28
The Hollyhock	23	Roses	32

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ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

FEBRUARY
1899

The Making of our Home.

“Chips of Rock.”

By CHARLOTTE G. O'BRIEN.

WE read on every hand nowadays of the bountiful blessings of youth, the freedom and the joy of movement and of love, the excitements of travel and the pleasures of physical perfection when one is young. Is there no one to be found who will sing of the virtue of old age? Surely it can be done, and with a good heart, too, if the path of life—broken and jagged and thorny though it may have been—has yet led steadily between the blooming banks of flowery youth in the country till one sees the full development of trees planted by one's own hand, and can gather the roses grown from one's own cuttings.

My “chips of rock” make a fine nest for trees, and as I walk about and show newcomers my thujas, or piceas, or pines, and say to them, “There was not a tree in this place when I took it up, but look at that tree and that, and see what an old woman I must be, I glory in my age.” Surely one may be as proud of a green wig on one's trees as of a yellow wig on one's skull—both are fleeting, but at least the green lasts the longest. I made a mistake in claiming that no tree was in the place before my time. There were three small oaks which had a history. The father of the present Sir Charles Barrington (or his grandfather) had a fancy about oaks, and is said to have always carried acorns in his pocket, and planted them in handy corners along the roads, and these three trees are believed to have sprung from his acorns. My near forty years of tenancy has not made much difference to them, whilst all around the upstart foreigners forget the shortness of their youth and the haste of their maturity, and the swiftness of their decay, while ever and always the slow oaks sigh to the flowing river and gaze on the mir-

rored clouds, seeing in them both the swift passage of their summer leafage and the far-beckoning distances of immovable time.

I observe here and in other places, both in Co. Limerick and Co. Dublin, that small seedling oaks are very frequent amongst grass in the meadows; indeed, if one could fancy Ireland without cattle, I believe fifty years would see the country clothed with oak, ash, beech, sycamore, horse-chestnut and Scotch fir: a hundred years would see it once more Banba the Isle of Woods. But oaks spread more away from the parents than the other trees, owing to the rooks dropping them “over and hether.” Here lauristinas, bays, berberis, cotoneasters, and many other foreigners run wild, and bid fair to hold their own. The laurel does so inland, but not here. But the trees and they live their own lives, little helped or hindered by me, even little noticed; still a background of nature's joyful endeavour framing my “Hub of the Universe.”

My flower garden—and to the flower garden I come back. When I turn over in my mind the tons of seaweed, “road stuff,” bog mould, “made soil,” and manure that poor little garden has eaten up, I say to myself, “Sure never was such hungry land,” and of all the manures the most useful is the ground-down limestone from off the roads. One can do nothing without continual putting in of new material, but with that the compost suits bulbs splendidly, and anything that can be given time as a rule. Stoney, it remains hot and dry; but winter is almost as flowery as summer, “barring” December and January, and spring is early and glorious. Summer after 15th July is always, alas! a check. We blaze up with a superb rush of flowers up to that date, but no persuasion will

induce regular half-hardies to do much good, and annuals grow small and spikey, and are very soon out of bloom. Carnations, funkias, lilies, gladiolus, Michaelmas daisies and schizotypilis succeed one another in beautiful abundance; but one sighs for the sobby, rich, luxuriant beauties that grow out of all bounds in the ordinary damp, rich, limestone soil of Ireland. I have to depend largely on pinks in their varieties; seedlings from seed of my own gathering and rearing for one thing. They give one great

Lime.

By M. J. JAMISON, Associate of the Royal College of Science for Ireland.

[Continued from page 5.]

WITH regard to the beneficial use of ground limestone in soils, the rock selected for grinding should be of high quality, and when ground at least 40 per cent. should pass through a sieve with 10,000 holes to the square inch. Burnt lime



ARDANNOIR, 1908.

variety, a large proportion of doubles and unlimited flowers. Of course they are not in dividually as fine as the named carnations one buys (and as many of those as I can beguile out of my neighbours' cuttings or layers I lay hands on), but the seedlings begin in April and are still flowering in November, and are always jolly and healthy. It is not necessary in gathering the seed that it should be *black* ripe; if well developed and well dried the yellow seeds germinate all right. I have not found that I got better seed by buying than I grew at home. I sow in early summer our of doors, and have a fresh lot every succeeding year. They are a great stand-by, for very few die.

[To be continued.]

very soon takes in CO_2 from the air, thus becoming similar to ground limestone. In applying slaked lime to the soil it should be spread evenly on the surface during dry weather so as to enable it to get into the carbonate form. It can then be harrowed in. In all food solutions for nitrifying bacteria the carbonate is used. Lime and slaked lime check nitrification. The tips of plant roots can etch the carbonate. Fancy the delicate tip coming into contact with a substance used for killing moss, &c., on trees and walls, and which makes us writhe in agony should a spark of it get into our eyes when white-washing. Solubility of plant food in water is greatly advocated, but is it so

important after all? Take, for instance, the treatment of insoluble calcium phosphates with acids so as to render them soluble. Then to get the best results the land must be limed so that the soluble phosphate can combine with it and become insoluble rather than combine with substances more difficult to be rendered soluble, or, should we say, more difficult to be digested by the plant. Fineness for distribution again seems the only advantage. Slag which contains excess of lime over that in combination with the phosphate (40 per cent. to 45 per cent. total CaO) gives in general better results than superphosphate when placed near the roots of plants. Plants take in their food in solution, but is it natural to suppose that a plant is left to the chance of obtaining its food in this way rather than preparing it itself? Since there is an acid at the tips of root-hairs, and there are ferments similar to those in the alimentary tract of animals rendering soluble the food stored up for the seedling, is it a wild imagination to consider that there are digestive ferments in this acid substance, so that, e.g., the dead microbe which has stored up nitrogen in its body can be digested and used by the plant? Stimulants act similarly on plants and animals. Certainly plants have been grown on water cultures, but what would be their nature after a few generations? Soluble foods are also given to people of weak digestion. The organs in question for the succeeding race in both cases might be typified in the nitro-culture where the microbe has been treated either to a luxurious or a workhouse life in a surrounding abnormal to what it was accustomed, so that it no longer knows how, or is not willing, to work for its food. Soils are considered deficient in lime when they contain less than 1 per cent. On farms we have a general idea when lime is wanting by the appearance of sorrel on cultivated lands, and on pastures by the growth of foxglove, sorrel, moss, and the dying off of perennial rye-grass and white clover, their places being taken up by bent grasses not relished by stock and showing a bleached appearance even in summer. In testing soils with litmus paper it is better to work with a watery solution (distilled water in preference) rather than placing the moistened litmus against the soil. Blue litmus being the sodium salt of the dye, the soda is more strongly absorbed by the soil than by the paper, so that often an alkaline soil may give an acid reaction.

Besides precipitating the soluble phosphates, lime is also useful in neutralising the acids left after sulphate of ammonia has been nitrified and potash has been used by the plant.

Crops on analysis show lime in less or more quantities. Leguminous crops are most benefited by lime. The gardener who uses much organic materials will find lime his best friend. It ripens the wood and fruit in orchards. In our use of lime let us look at the subject naturally. Where organic matter is in excess hot lime may be applied, as the destruction of ammonia is a small part of the whole, but in farm work, where our main object is to increase organic matter, it is not wise to hasten its decay too rapidly.

[NOTE.—On page 4 of last issue in line 23 first column, and line 32 second column, please read magnesium oxide; and line 19, instead of Ca(OH)₂ read Ca(OH)₂; also last line but one read adsorbed for absorbed].

Another New Industry for Ireland.

IN the last issued Kew Bulletin of Miscellaneous Information there is an interesting article on *Rhamnus purshiana* DC, one of the two Western American buckthorns that supply the world with the comparatively newly introduced drug cascara sagrada. The commercial product is obtained from the bark, and there has been such a demand for it since its introduction, about thirty years ago, that the trees in the native forests are now becoming rapidly exterminated.

A suggestion being made that an industry for the growth of this tree might be established in western Ireland or Scotland, the Kew authorities have submitted it to trial, and now declare that "it seems not unlikely that it may be a suitable subject for introduction to the western coasts of the British Islands." They further add that it "may also prove to be of value, commercially, since the local supply is becoming exhausted and plantations do not appear to have been started in America."

Having shown that the trees can be grown in this country the Director of Kew, anxious to satisfy himself that the active principle of the bark that gives cascara its peculiar tonic and laxative medicinal properties was equal in quantity and quality to the native grown trees, submitted the bark to a practical test. A tree, therefore, was cut down and the bark sent to the well-known drug manufacturers, Messrs. Burroughs, Wellcome & Co., who worked it up into tablets, and reported that "the present extract is indistinguishable in its action from that made from American bark."

There seem, therefore, to be reasonable expectations from such an undertaking in the west of Ireland.

The tree (*Rhamnus purshiana*) appears to vary considerably as to size in its native home on the Pacific slopes, but the largest specimen of the trees grown at Kew, raised from seed sown in December, 1891, is now 21 feet high, 18 feet in the spread of its branches, and trunk girths 24 inches. They are "undoubtedly hardy at Kew."

Dwarf Shrubs for Rock Gardens

By J. W. BESANT, Botanic Gardens, Glasnevin.

THE number of shrubby plants suitable for rock gardens has increased so much of late years that it is no uncommon occurrence to find rockeries almost wholly furnished with shrubs. Such a feature lends considerable interest to a garden, and will doubtless become more extended as the difficulty of accommodating sub-shrubby and herbaceous alpine becomes more acute. If we consider alpine plants, as the term is popularly applied, a very considerable number might be strictly classed as shrubs; such, for instance, as *Aethionemas*, *Iberises*, &c., which have short, woody shoots, and may even attain a fair height, as in established healthy plants of *Iberis sempervirens*.

The shrubs mentioned in the following notes reveal what, in the present instance, is meant by the title.

Due care must be exercised when planting shrubs on the rock garden, otherwise there may be troublesome pruning back or lifting to do in future years. Unless on very large schemes of rock-work it is not advisable to introduce strong growing flowering shrubs, however beautiful they may be, otherwise something must suffer. This does not preclude the use of such plants about the approaches to the rock garden, leading on to it, as it were; there they may be eminently suitable.

A considerable number of shrubs not exactly alpine naturally, many indeed garden varieties, have been found to harmonise perfectly with the other occupants of the artificial rock garden because of their prostrate or compact habit.

Several species of berberis will be found suitable for the purpose under notice. *Berberis empetrifolia*, from Chili, and the new *B. Wilsonae*, from China, are both neat growing dwarf plants, the latter particularly good in autumn, when the leaves turn bright-red and yellow; *B. coccinea*, from the Himalayas, will also be found useful and pleasing. Other good sorts for this purpose are *B. stenophylla reflexa*, *B. stenophylla Irwinii*, and *B. Thunbergii*, the latter well known for the brilliant colouring of the leaves in autumn. *Cornus Hessei*, a slow-growing compact species, with dusky purplish leaves, accompanied by bluish white berries in autumn, may be found useful, but should be given a site where there is no possibility of the soil becoming dry. The cotoneasters offer some useful and pretty sorts, and usually succeed in any position. *C. adpressa* is an extremely interesting and beautiful species for a prominent position; planted where it can throw its branches

over a friendly boulder this species will flourish and furnish a feast of colour in autumn when the leaves colour red and gold before falling. *C. buxifolia*, although it will ultimately attain a considerable size in a bed, is of comparatively slow growth, and will not soon become aggressive in the rock garden; it is nearly evergreen, and produces quantities of dull red berries in autumn and winter. *C. microphylla* and the smaller-leaved variety, *C. microphylla glacialis* (the latter often called *C. congesta*), are both useful and pretty rock shrubs. *C. rotundifolia* bears some resemblance to *C. buxifolia*, but has rounder leaves, and the berries are bright red and highly ornamental.

Of the broom family there are quite a number of suitable sorts, interesting at all times, and particularly beautiful in flower. *Cytisus Ardoini*, a charming yellow-flowered sort from the Maritime Alps, is essentially a rock garden plant, and so also is the rare and beautiful *C. Beani*, raised at Kew. *C. decumbens*, of prostrate habit, and bearing yellow flowers, is likewise of great value, while a well grown plant of *C. kewensis*, with its diffuse spreading branches thickly clad with cream-coloured flowers, is hardly surpassed in beauty by any flowering shrub. Other good *Cytisuses* are *C. purpureus* and its variety *alba*, some new forms of *C. scoparius* and *C. versicolor*, with small yellowish white flowers tinged with pink.

Several of the dwarf evergreen *Euonymuses* will be found extremely useful, particularly for shady places near trees. *E. radicans* is a prime favourite for such a position, and affords some really fine varieties, such as *E. rad. foliis pictis*, *E. rad. Silver Gem*, the latter particularly bright and pleasing in winter. *E. radicans Carrieri* is of more robust habit, and does not trail in quite the same manner as the type plant, but is not less useful, bearing as it does quantities of fruits in autumn, which, on bursting, display the pretty orange-coloured covering of the seeds. *E. nanus*, with narrow, bronzy green leaves, may be used as well as *E. japonicus*, and several of its beautiful silver and gold variegated varieties, one of which, *E. jap. versicolor*, a silver form, is very pleasing. *Fabiana imbricata*, a heath-like plant of the solanum family, may be used in a sheltered spot. The flowers are pure white, tubular, and produced on the upper portion of the branches.

The *Genistas*, another genus of the pea family, are very similar to the *Cytisuses* in general appearance. *G. anglica*, a spiny loose habited plant, bearing spikes of yellow flowers, is useful for a dryish, sunny position, as also is *G. germanica*, of more compact and leafy growth than the former. *G. pilosa* is extremely floriferous, and forms a spreading mass two feet high. *G. sagittalis* affords variety; it produces somewhat flat branches, or rather shoots, of herbaceous nature and small leaves, but is not so useful for the rock garden as some other species. *Genista tinctoria fl. pl.* grows from six inches to nine inches high, and is one of the finest of all dwarf flowering shrubs, producing annually enormous quantities of its double yellow flowers.

Hypericums afford some useful plants for rock gardens in addition to the low growing forms such as *H. coris*, *H. fragile*, *H. repens*, &c., generally recognised as subjects for the rock garden. *H. moserianum* may be used effectively. The flowers are large, waxy yellow, their

beauty enhanced by a central bunch of red anthers. *H. Henryi* is also good, attaining three feet in height, and producing large yellow flowers. Hypericums should have a sunny position in fairly good soil.

The shrubby Cinquefoils are eminently suitable for this purpose, and can now be had in some variety. *Potentilla Friedrichseni*—a garden hybrid—is extremely beautiful, of erect habit, and bearing numerous soft yellow flowers throughout the summer. *P. fruticosa*, fairly well known, bears yellow flowers freely, while the variety *P. f. humilis* is of dwarfer habit and equally floriferous. *P. frut. arbuscula*, seeds of which were received at Glasnevin from Sikkim, gives promise of being useful. *P. darurica* is quite low growing, with yellow flowers, while *P. salesoviana* is a distinct plant of looser growth bearing somewhat hairy leaves, whitish underneath, and producing fine white flowers in summer. *P. micrantra*, of uncertain origin, resembles the fruticosa set.

Perovskia atriplicifolia, a shrub of the salvia family, is distinct and beautiful. The general appearance of this plant is decidedly silvery, the effect being enhanced in late summer by the spikes of violet-blue flowers; a sunny aspect in loamy soil is suitable. *Coprosma acerosa*, a twiggly prostrate New Zealand plant, lends variety, and is interesting when bearing quantities of bluish smoke-coloured berries.

A large number of shrubby veronicas may be used in the rock garden, while the members of the heath family are a host in themselves. Heaths generally do not flourish where lime is present in the soil, but *Erica carnea*, one of the most beautiful spring flowering plants, is an exception, and grows freely in loam containing lime.

The list of suitable subjects is not exhausted, but enough may have been mentioned to show the wealth of material available.

Inoculation of Leguminous Crops.

THE question as to the beneficial use of inoculation by artificial cultures of bacteria in the case of leguminous crops has been acutely raised by the publication of the results of Mr. F. G. Chittenden's experiments at Wisley during the past season. As doubtless our readers know the latest and most extensively boomed culture is the "nitro-bacterine" of Professor Bottomley, made up in five shilling packages and distributed by an agency controlled by Mr. Stead of the *Review of Reviews*. This was the "brand" of culture used in the Wisley experiments, and the object of the experiments was to find out if its use in an ordinary garden soil was attended with any distinct advantage to the crop.

Now, it has been known for a very long time that a leguminous crop, such as peas, beans, clovers, &c., leaves the soil distinctly richer in nitrogenous matter than it was before it carried the crop. Why is this? The answer forms one of the minor romances of science. The experiments of Boussingault in 1854, and those of Lawes and Gilbert later, demonstrated that the plant's only source of nitrogen was the soil, and that apparently this element was always taken up by the roots in a combined form. Twelve years after, Hellriegel and Walfarth

discovered, however, that these leguminous crops could make use of the free nitrogen gas of the air, but only by those plants that were provided with "nodules." The nodules or swellings on the roots of leguminous plants are and have been for ages familiar to gardeners, but until about this time their true significance was never even guessed. It was further discovered that, if before the seed were planted, the soil was sterilised so as to destroy all its microscopical life, the plants failed to produce nodules, and if in addition to sterilisation the soil was deficient in nitrogen the plants would eventually die of nitrogen starvation. It was found, moreover, if either crushed nodules or a little fresh garden soil were washed in water and the washings mixed with the sterilised soil, the roots would certainly form nodules and the plants flourish even if the soil was devoid of nitrogen compounds. Marshall Ward, in 1887, from a series of experiments he had carried out, drew the inference that the root nodules contained living bacteria, and that it was owing to the vital activity of these that the crop was able to obtain its supplies of nitrogen direct from the air. This announcement was followed in 1888 by the actual discovery and isolation of a specific nodule bacterium by Beijerinck, and so far the problem was solved. Exactly how the nitrogen is fixed is, however, still a biological puzzle, although recent experiments of Greig Smith (1907) show that in alkaline artificial cultures containing sugars a nitrogenous slime is formed, which he assumes to be the substance formed in the nodules and made use of by the leguminous plant.

It must be remembered that inoculation simply supplies the living nitrogen-fixing germs to the soil, and therefore, if the right kinds of germs are there already, little advantage is likely to follow the introduction of an additional supply, as given favourable soil conditions the germs are able to multiply and spread at an amazing rate. On the other hand, if the soil is unfavourable to the life of these particular germs, inoculation, obviously, can be of very little use.

To enable a leguminous crop to fix the maximum amount of nitrogen from the air, first nodule-forming bacteria must be present in the soil, and second the condition of the soil must be favourable to the development of the germs. Now, this particular soil condition is exactly the condition that favours the production of heavy and healthy crops—that is to say, the soil must be (1) well-drained, else it will tend to be sour, and any acidity is detrimental to bacteria life, (2) thoroughly tilled so as to enable it to hold an abundance of moisture and air, (3) sufficiently supplied with available compounds of phosphoric acid and potash.

It is a matter of experience that most, if not indeed all, cultivated garden soils in this country contain already these particular nodule-forming germs, and one would naturally assume that inoculation would be entirely superfluous in such cases.

Let us now turn to the Wisley experiments and their results. These experiments were planned and carried out with great care. There were 24 equal-sized plots, 12 on deeply, well-cultivated soil and 12 on fallow land with shallow cultivation. The soil on analysis showed that it was not lacking in any of the chemical substances essential for bacterial growth and development; but to make the experiment all the more thorough some of

the plots were treated with different kinds of manure. The plants used were peas in four varieties. One of each pair of plots was sown with inoculated seed and one with uninoculated seed. *There was under no soil treatment a consistent increase in the crop due to inoculation, and the conclusion arrived at, is, "that the inoculation of leguminous crops with 'nitro-bacteria' in ordinary garden soil is not likely to prove beneficial."* In one respect the results were somewhat surprising, as Mr. Chittenden says that in "seven out of the twelve plots in which inoculated seed was sown gave smaller crops than the corresponding uninoculated plots, and one gave an equal crop," the advantage of uninoculated over inoculated seeds in the entire series of experiments amounted to an increase of 14 per cent. per weight of produce. While it is difficult to conceive any really practical advantage in inoculation in ordinary garden soil, it is equally difficult to account for an actual disadvantage. In the light of our present knowledge respecting these nodule bacteria, the practice of inoculation as a means of increasing the produce of leguminous crops cannot be recommended. Of course we find that a large number of private growers have written testimonials as to the efficiency of inoculation (any purveyor of even the most useless of quack nostrums can secure the same), but we know of no case in which inoculation has been tested in ordinary garden soil (and it is only with such soil that gardeners are really interested) under a rigid system of control, to yield an increase of produce that would represent a profit to the grower.

American Gooseberry Mildew.

FROM Professor Jacob Eriksson, of Stockholm, comes a leaflet on the above subject reprinted from the *Praktische Blätter für Pflanzenbau und Pflanzenschutz*, Heft 2, 1908. After making a slight correction in what has hitherto usually been accepted as the proper scientific name of the fungus, and stating that it has been known for at least seventy years, he goes into the question of its recent introduction into Europe. It will be new to many of our readers to find that this has taken place both on the east and on the west. Its discovery in the north of Ireland in 1900, which until recently was supposed to mark its first appearance in Europe, was, however, preceded by an outbreak at Winnitz, in south-west Russia, ten years earlier—viz., in 1890—and by 1904 it had already appeared in ten widely separated localities in European Russia.

Dr. Eriksson calls attention to the increasing intensity of the disease, to the fact that no one variety of gooseberry seems more resistant to the mildew than another, and that as well as attacking the gooseberry it has been found on the red and black currant, on *Ribes aureum*, and in one locality in south Sweden on raspberries. He states that in many instances three distinct periods of attack occur during the year in Sweden, the first being during the second half of June, when the young berries and young shoots are involved, infection taking place from the hibernated perithecial stage of the fungus. For the second or summer outbreak (latter part of July in Stockholm), partly on young, newly planted bushes and partly on old ones, he states that the infection is not always due to conidia from neighbouring affected plants,

but that it must be accounted for, in his opinion, by the presence of an internal germ of disease which was already inside the young plants when they were transplanted, or which remained in the older plants from a previous year in which they were diseased. It will be remembered that Dr. Eriksson is the author of the so-called "mycoplasma" (or internal germ) theory in connection with the rust of wheat and other cereals, and although he has assiduously promulgated his views on this subject for some years the theory has gained as yet very few adherents amongst mycologists. In this case, also, very definite scientific evidence for his present opinion will have to be forthcoming before this peculiar view is likely to be seriously adopted. The third period of attack, August to October, is put down to infection from neighbouring diseased bushes.

With regard to preventive measures, he states that spraying during the vegetative period is only of ephemeral value, for the mildew appears repeatedly afterwards on the developing young shoots. Such spraying he considers to be a waste of time and money. Removing and destroying the diseased shoots during the summer is also, he considers, of little real use, and even cutting the bushes right back to the ground, burning the cuttings and liming the soil, has not, in any case known to him, eradicated the pest. He then returns to the question of an internal "something," the presence of which he believes it necessary to assume in order to explain cases of the reappearance of the disease for which the accepted views seem insufficient to account. He assumes that the fungus lives internally in the attacked plants, perhaps in a scarcely discernible form or shape, and poisons the whole shoot. It is further assumed that at the end of the period of growth—in late autumn—the poisoned sap flows down into the stem and the roots, to ascend again in the next spring and cause a fresh outbreak of disease at the specified time.

He has no faith in the certification of nurseries as free from disease even after most careful inspection, for in several cases where he himself and other well-qualified investigators inspected nurseries with the utmost care in September, and found no signs whatever of the disease, it appeared, nevertheless, in the following year. It is, therefore, not possible to certify by inspection that a nursery is free from disease, but only that the fungus could not be discovered there.

The only certain and sure method of combating the disease lies, according to Dr. Eriksson, in the total eradication and burning of diseased bushes, and this work must be taken in hand at once before it becomes too late. This is the only way in which the gardens which are still healthy can be so preserved, and in localities where the disease is present no new planting should be done for two or three years. In very badly affected localities, where it is already too late for this, the individual owner has the choice of either total eradication and burning, or of cutting off the tips, spraying and liming in late autumn. These conclusions as to remedial measures are practically the same as those arrived at by our own Irish Department of Agriculture last year, and have been put into practice during the past season. It is to be hoped that tangible results will ensue from the measures taken, and the coming year should afford useful evidence in this direction.

The Hollyhock.

By J. H. CUMMING.



WAY back in the early seventies of the last century the hollyhock was to be found in nearly every garden, and much care and attention was taken to have good plants, as it furnished no inconsiderable part of the flower garden display. Its varied shades of pleasing colours to be found in a good collection gives it a commanding effect in the herbaceous border and the shrubbery, while its majestic spikes of large rosette-like blooms lend an aristocratic air to all its surroundings. No flower show prize list of any pretensions in these days was issued that did not include

a class for 11 spikes or 9 spikes of cut hollyhock, the odd number being suitable for arranging the spikes in a "bosom" fashion so that all could be seen. For show purposes the plants were grown five feet apart on a special quarter of the garden, which previously had been heavily manured and trenched. The work of watering, stopping, shading and developing a long spike of fresh bloom fit for show was no mean feat, and the writer can recall an exhibitor taking 11 spikes of hollyhocks to three successive one-day flower shows, and winning with the same two silver cups and a silver tea-pot—a truly pot-hunting achievement. In 1875 the crash came, and a "damping off" of showing hollyhock for some years to come.

The disease known as *Puccinia malvacearum*, which attacks hollyhocks, made its appearance, and scarcely a garden escaped a visitation, which destroyed for the time all the fine collections which many prized and highly valued. For some years after even the nurserymen were unable to offer a clean collection for sale, and it may be questioned if any now possess a named collection to equal what was in existence before the disease made its appearance.

The loss by disease of this fine subject turned attention more to the raising of seedlings. Seed sown early in February, and the plants grown on strong and then planted out at the end of May, will bloom during the late autumn. Without the assistance of artificial heat seed may be sown in boxes during April and May, and when two inches high the seedlings can be lined out on a warm border, there to stand till the following spring, when strong, well established plants would be available to plant where they were intended to bloom. When it is desirable to perpetuate good sorts, such as a named collection, propagation by cuttings is the usual plan; but a quicker means is to do so by grafting. Where a batch of seedlings are grown a number should be lifted and pieces of the roots cut off about six inches long. Prepare the named cuttings and pieces of roots with a sharp knife, making a slanting cut on each, and bring them together as is done on the common whip-

graft style. Tie with soft raffia matting to keep the union firm, then pot into 2½ inch pots in a mixture of light soil, chiefly made up of sharp sand and leaf-mould. Water and plunge the pots in a bottom heat of 70 deg., keeping close and shading from the sun. In two weeks the heat may be reduced to deg., and in three weeks' time union will have taken place, when they may be gradually hardened off and grown under cooler conditions till planted out.

The hollyhock revels in a rich soil, and when the flower-spikes show should be given a top-dressing of manure and well watered when flowering.

Some might consider the double-flowered hollyhock too stiff and formal. Single flowering plants, however, can also be had, and constitute a very beautiful race, and are even more decorative than the doubles, and many will prefer them for the garden. The hollyhock disease is really a fungus which attacks the underside of the leaves, which ultimately turn brown and fall off, and of course the bloom suffers in consequence. Cures suggested were many, and dire results followed the trials of some. I may here say the hollyhock disease is not extinct. It is still found in some gardens, and where it is necessary to preserve the stocks or plants it is a good plan to give frequent applications by means of a syringe of a very weak solution of Condy's fluid, say half a pint to one gallon of water. Another preparation recommended for checking the spread of the fungus is to one pound of tobacco powder add a quarter ounce of finely ground sulphate of copper. Mix and dust the under surface of the foliage. This should be done every three weeks during summer.

Where the disease is at all troublesome the best means to get rid of the pest is to lift and burn the whole stock and cease growing any for at least a year. Thereafter, a new supply should be raised from seed.

Notes from Glasnevin.

Hymenanthera Crassifolia.

This plant is a native of New Zealand, and if a casual observer was told that it belonged to the same order as a violet he would be somewhat astonished. *H. crassifolia* is an evergreen shrub, forming a stiff, compact, shortly-branched bush, with curious grey wrinkled stems and short, narrow spatulate leaves. The flowers are small, dull yellow, and are produced in great quantities in the summer on the undersides of the branches, where later in the year numerous pale, purple berries appear, which eventually turn pure white. The Botanic Gardens at Glasnevin possess a remarkably fine specimen of this shrub, which is five feet high and thirty-six feet in circumference. It makes a good shrub for a rockery or where shrubs of a low habit of growth are required, and it is perfectly hardy. Cuttings root freely in sandy soil under a hand-light. The plant is figured in the *Gardeners' Chronicle* for 1875, page 237.

R. M. POLLOCK.

We have received a copy of the first issue of *The Irish Farming World Directory and Annual*. Its contents are varied and useful, amongst which are lists of Irish gardens and gardeners, provincial shows, &c. It costs sixpence, and although primarily for farmers many country readers will welcome its appearance.

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New Ideas in Planting.

THE conclusions arrived at by a consideration of the results obtained from the extensive experiments carried out at the experimental fruit farm at Woburn will come as a surprise to the majority of fruit culturalists. These experiments are fully described in the recently published report,* which deals with several hundreds of trials on methods of planting, in which 2,000 trees were planted “by some ten different hands in seventeen different localities and in eight different counties.”

The experiments were originally planned to afford an object-lesson in the superiority of the orthodox methods of “good practice” over the bad methods followed by ignorant or careless planters. The experiments, however—as experiments sometimes will—proved the exact opposite to what was expected of them. The trials were continued for ten seasons in succession, and always with the same result—the unorthodox methods beat the “good practice” every time. In the “careless” method the trees were taken just as received from the nursery, and “huddled” untrimmed into holes too small for them, the rough earth shovelled over them, and “rammed with a heavy rammer till the whole was thoroughly puddled and shook like a jelly at every stroke,” finishing up with a shovelful of loose earth scattered over the top. Furthermore, some of the planting was done at a time when the soil was so sodden with water that the “orthodox” control planting had to be delayed until the physical condition of the soil improved. In comparing the results the experimenters report that the “careless” method of planting resulted, over the “orthodox,” in a

more vigorous root and stem growth (on an average about 40 per cent.) and a greater productiveness in fruit—the average success in the case of bush fruit being as much as 76 per cent. The report, therefore, recommends thorough ramming during planting, especially if the soil be a clay and in a sufficiently wet condition to secure intimate contact between root and soil. The ramming operations were, of course, confined to the small area of disturbed soil immediately over the root system.

In orthodox planting great care is taken of the roots in transplanted trees and bushes so as not to injure them, preserving the fibrous root system, and spreading out and so arranging the stout roots that they lie as near as possible in their natural position. All this care is apparently not only unnecessary, but, according to these experiments, actually detrimental to the success of the tree. It is even better to remove the fibrous roots, as they will die in any case, while bending the stouter roots, at least in young trees, will result in the more rapid development of a new and vigorous system of fibrous feeding roots, and so increase the water and food supply, and therefore the growing power of the entire tree.

The explanation given is this—put as briefly as possible. The fibrous roots, having lost their growing points, lose their power of elongating, and then more or less rapidly die off. New roots arise from the sides of the older roots as well as from the base of the stem in contact with the soil. The closer the contact with the moist soil the more readily do new roots arise. Furthermore, a bend in one of the thicker roots, if the root is not too old, encourages the formation of new feeding roots at that spot. Once formed, the new roots soon emerge from the restricted area, where the soil is tightly rammed, to the looser and better aerated soil-region immediately surrounding it.

The outcome of these trials is certainly very striking. We have ourselves seen the experimental trees at Woburn, and so far as these are concerned the results are undoubtedly convincing; and as similar results have been obtained on other soils and under different conditions, fruit growers might well carry out similar trials on their own grounds, and so convince themselves whether the system advocated in this Report is advantageous in general practice.

* Ninth Report of the Woburn Experimental Fruit Farm. By the Duke of Bedford and Spencer U. Pickering. The Amalgamated Press, Ltd. Price 2s. 6d.

Cælogyne Mooreana.

THIS new cælogyne is one of the most beautiful of recently introduced orchids. The flowers are such a pure and chaste white, opening during December and January, that in the future, when more plentiful, it will be an acquisition to many a collection.

While collecting for Messrs. Sanders and Sons of St. Albans, Mr. Micholitz discovered this new species on the Lang Bian Range, in Annam, at about 4,300 feet elevation.

It first flowered with Messrs. Sanders and Sons in December, 1906, and received a first class certificate on December 11th at the Royal Horticultural Society meeting, and was named after Mr. F. W. Moore. At Glasnevin it flowered in December, 1907, and also this year, the flower being sent away for the Botanical Magazine.

The flowers are remarkably like the well-known *Cælogyne cristata*, with the numerous yellow, hair-like appendages on the disc of the lip. The similarity, however, is only seen in the flowers. The leaves are from 8 to 16 inches long and $1\frac{1}{4}$ inches broad, and more upright than *C. cristata*, while the scape is stiffer and more erect, being about 8 to 12 inches long.

C. F. BALL.



Photo by

THE NEW CÆLOGYNE—C. MOOREANA.

[C. F. Ball.]

while Mr. R. Hooper Pearson, late chief sub-editor, has been appointed managing editor of the paper.

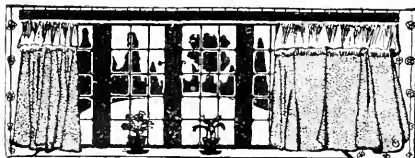
As demonstrating the efficiency of grease-banding, samples of bands taken from fruit trees have been sent to recent meetings of the Scientific Committee of the R. H. S. of England, showing large numbers of entrapped insects. One band from an apple-tree had caught nearly 400 male and female winter moths, and many bands had each upwards of 200 captures upon them. The larger proportion of females were caught from the middle to end of November, males being more abundant earlier.

GROWERS of black currants should carefully look over their plantations in order to make sure that every single bush is quite free from "big bud." As all fruit growers know these swollen buds are due to the presence of a mite, and that if allowed to remain on the bushes the shoots arising from them will fail to develop properly, and eventually shrivel and die. Further, that the pest spreads very rapidly to other and healthy bushes, and that there is no known remedy. Every twig showing big buds should, therefore, be cut off and burned at once. If the bush is badly affected it should be destroyed root and branch. The big buds contain mites

and eggs during January and February. During March the mites become active, migrate from their winter quarters, and begin busily to lay eggs in fresh buds. Remember this fact, and act upon it, else there will be trouble coming along later.

THE recently established Kingstown Gardeners' Society seems to have all the vigour of youth and all the energy that springs from real enthusiasm in a cause. Its object is stated to be "to promote by means of lectures, reading of papers, discussions and outings, the study and advancement of horticulture, whether adopted as a profession or a hobby." We notice that Mr. F. W. Moore is to lecture before the society on the 3rd inst. on Water in Gardening. Next month we propose giving an illustrated article on Rock Gardens, by Mr. George S. Satterley.

PROFESSOR FARMER, F.R.S., who succeeded the late Dr. Masters in the editorship of the *Gardeners' Chronicle*, has, owing to other professional duties, retired from the "chair." According to the present arrangement, Dr. Frederick Keeble, M.A., of University College, Reading, has accepted the post of scientific editor,



The Reader.

FRUIT TREES AND THEIR ENEMIES, WITH A SPRAYING CALENDAR. By Spencer Pickering and Fred. V. Theobald. Simpkin, Marshall, Hamilton, Kent & Co., Ltd.—A book on the treatment of fruit trees against the attacks of insect and fungal enemies by two such authorities cannot fail to command the attention and gain the confidence of fruit growers. It is convenient in size, and may be purchased at the modest price of eighteen pence. It starts with two short chapters giving the characteristics of insects and fungi, followed by three others devoted to general advice on spraying and on appliances and material, the latter giving clearly worded instructions for the making up of 28 mixtures recommended for use in the pages following. The rest of the book is taken up with detailed descriptions of the various "pests" and the remedies to be applied, concluding with a spraying calendar convenient for ready reference during the year. With the exception of the vine, out-door fruits only are dealt with. We strongly recommend all readers interested in fruit-growing to obtain the booklet, and to follow the instructions therein given whenever the occasion arises for its advice to be sought.

THE FRUIT GROWERS' YEAR BOOK (1909). The Cable Publishing Co., Ltd.—This is a shilling annual devoted to the fruit growing and market gardening industry, and as it is in its seventeenth year of issue it must have a well established "sphere of usefulness" among fruit growers. Its contents include a calendar of gardening operations, a review of legal cases of the past year, list of leading trade societies, and numerous articles upon subjects of special interest to market gardeners. It is illustrated with sepia-tint plates.

HANDBOOK OF HARDY TREES AND SHRUBS. By George Bunyard. Published by George Bunyard & Co., Ltd., Maidstone.—The scope of this little publication is described in the sub-title, "a popular guide to the most useful park trees, evergreen and flowering shrubs, and ornamental trees." The use of shrubs and trees in decorative gardening is getting more and more popular every year, and an inexpensive reference handbook, written by an author who has devoted much time and attention to the subject, will be welcomed by many gardeners, professional and amateur. The increasing popularity of flowering shrubs is not far to seek. "To the amateur cultivator," as the author points out, "one advantage they possess is cheapness, as for a £5 note he may buy 100 distinct varieties or fifty of the choicest for the same sum. Further, they require no special soil or position, except in a few cases which will be noted hereafter, and for elegance, boldness, grace, and contrast

with their evergreen brethren they stand out pointedly, and even without flower and foliage alone entitles many of them to a position of importance, ranging as it does from the mossy Tamarisk to the 18-inch leaves of Paulownia." The first four chapters are devoted to park and paddock trees, specimen trees for lawns and gardens, conifers and evergreen shrubs, respectively. Chapter V. is a reprint of the author's paper, read before the Royal Horticultural Society of England, on a year's notes on deciduous and evergreen flowering and ornamental shrubs and trees, brought up to the present year. It is an important chapter, interesting and instructive, and contains a mass of information most useful to the amateur. The book concludes with lists of shrubs and trees under definite headings, such as trees and shrubs for shelter, seaside planting, rockeries, &c. The pages are brightened by illustrations drawn in bold outline by Francis L. B. Bunyard. It costs 3s. 6d.

THIRTY-NINE ARTICLES ON GARDENING. By Emmeline Crocker. London: Dulan & Co.—The thirty-nine articles here brought together originally appeared in the pages of the *World* newspaper, and are mainly descriptive of a cycle of gardening operations in the flower garden and pleasure grounds throughout the four seasons of the year. The matter is simple, practical, and pleasantly written, but we fear that the too free use of italics will prove somewhat tiresome to the reader. The writer is a botanist as well as an enthusiastic gardener, and the chapters are full of explanations of botanical terms and flower descriptions, which are worked in with interest. She is also a traveller, and has made good use of her knowledge of gardens in different parts of the world in the descriptive parts of the book. Two of the articles are devoted to the Botanic Gardens at Glasnevin, in which the writer says: "In placing them second I refer only to size, expenditure and staff. As far as a collection of specimens, their cultivation and general organisation are concerned, they take no second place, but are serious rivals to other botanical gardens all over the world." The book is very attractively got up, clearly printed, tastefully bound, and illustrated by seven coloured plates, the work of the authoress herself. It would make a pleasing gift-book for a beginner.

Current Topics.

By E. KNOWLDIN, F.R.H.S., Secretary, Royal Horticultural Society of Ireland.

A PROPOS of an action taken by the Department of Agriculture against farmers for breach of agreement by neglecting the fruit trees supplied to them (*Irish Times*, January 18th), the term of which agreement one ventures to think reasonable enough one is reminded of the troubles of those sent out by the Department to preach the gospel of better things. Once upon a time, it must be confessed, we thought the lot of our horticultural instructors was cast in very pleasant places, as they glid (or glode) about the country roads—we mean footpaths—on their "bikes" at the rate of a penny a mile or whatever is allowed to grease the wheels, and dropped in here and there to show Pat how to prune and to sample Biddy's buttermilk or other dust disposer. One of our horticultural instructors,

however, rather rudely shattered that nice notion in telling us of one of his pupils whom he had been instructing in the gentle art of pruning, after performing the planting for him. A certain number of trees were pruned as specimens of how and what the tenant was to do. Did he do it? No, not he; and after several visits from our friend the instructor when asked plainly if he intended doing it just as plainly said "No, that's what you're paid for."

We don't blame *him*; there is something else at the bottom of all this, and we believe it is that "wretched" potato. This is no hasty conclusion; it was arrived at after reading the analytical essay of a gentleman who had been to the root of the matter, and who demonstrated beyond a doubt that the potato was the root of all evil in the "distressful" islet. Has there ever been a vegetable so brilliantly belauded—so blatantly abused? "Noble tuber," "wretched root," with other terms of fond endearment over that plant which our office imp tells us was discovered by Raleigh, who commenced life as a newsboy in Belfast, and made his fortune when Queen Elizabeth went to warble in the Town Hall by paving the path with papers for her to perambulate. Well, we know all that, and all about his discovery of the cigarette plant, the fruit of which provides suctional nourishment for three-fourths of the rising generation, although, by the way, the generation might rise quicker without it. What we want to know now is why, by all the ethics of prateology, is the potato good and abundant after two consecutive summerless summers? Sprayed or unsprayed all good alike (barring their scabby skins, and the scabbier they are the better they boil)—a bad precedent by leaving the Department's deputies in danger of being told they are paid to spray as well as to plant and prune. It is asked in all seriousness, and without any apology for bringing the tuber into these topics—for this is always current and a current like that babbling brook of Tennyson's which means to keep going on—it is asked, is not the cold, wet season inimical to the spread of the potato parasite? Might it not under a series of such seasons disappear—be in fact drowned out? At first sight, of course, no—emphatically no! A little reflection *may* perhaps admit there is something in it, and further and deeper thought may possibly lead up to the parting of the ways from our old-time instructors, that rain meant d—n; that is, dissemination of the disease, and carry on to the conclusion that they, like poor Jo's friends, who went praying in Tom-all-Alone's, prayed all wrong.

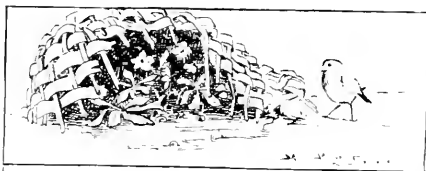
Reafforestation is another topic which looms large o'er the isle where every prospect pleases and only—a little reafforestation and a few other 'tions are wanted to put things perfect. There has been some smart talk coupled with some telling statistics about the same for some time, and it is just possible that something may at some time be done on a scale commensurate with its importance over and above arbor day's mild arboreal display. However, it is a big order and will take some talking yet; but of all opinions appearing on the subject "An American View," put forth in a letter to the *Irish Times* (January 14th), seems to contain the gist of it in such a clear, convincing manner by Mr. Angus Cameron, Berkeley, California, that it is quite evident *he* knows what he is talking about.

We have kept the letter (it is worth keeping) and also one by our own forestry expert, Mr. A. E. Moeran (*Irish Times*, January 20th), which amplifies it, for such letters are worth more attention than they generally get. When this reafforestation gets a start in earnest it will presumably be the biggest thing on earth—we mean Irish earth. In the meantime, there are a few smaller ones possibly worth consideration, and possibly, too, worth putting to a practical test when they have ripened sufficiently under the variable temperament of individual opinion to bear fruit.

What of the New Zealand flax, for instance? When is this handsome exotic, which not only tolerates our climatic conditions, but seems to thoroughly enjoy them, judging by its luxuriant growth in the County Dublin, at least—when is it going to be put to a practical test? Surely there is more than one old water-mill stagnating in idleness with "lashin's" of liquid motive power running riot to the sea that might be utilised to manipulate the flax, that of course after it is grown; but the growing is a simple matter compared with fruit culture, and the phormium is too innocent a plant to bring a poor tenant—beg pardon, landlord—into conflict with the Department, for once the latter provided the plants, and planted them, our flax farming friend need have no worry anent pruning or spraying, and judging from sundry confabs with the New Zealand representatives at the Irish Exhibition there is money in it, or will be when taken up, and taken up it will be, without a doubt; but when is another story. Here we *do* apologise for what is not a current topic, but what is relevant to what is a little "too previous" perhaps is the peculiarity displayed by the two phormium species, *Colensoi* and *Tenax*, as evidenced in the numerous fine specimens of both so common around the Milesian metropolis. For two years *P. Colensoi*—the stiff, upright grower—has flowered and seeded profusely, here, there, and everywhere, whilst only in one instance has the writer seen *Tenax* flowering, in spite of many handsome clumps which must have been growing undisturbed for years. However, the exception was a disturbed youngster which was transplanted in late spring, and we think ourselves fortunate in the possession of a nice little lot of seed. Our New Zealand friends did not seem able to distinguish between the two species relative to what they grow commercially, but there is a great difference between them, and when the Erin-go-Bragh Phormium Flax Co., Ltd., is in full swing, *Tenax* from its greater flexibility will probably be the chosen leaf. There are, too, a few other nice little industries yet to come; what of the cranberry which loveth the bog and will not grow elsewhere; of the willow-osier, and a few other things exempt from all the pains and penalties of neglected pruning, and—but we have outrageously exceeded space, so conclude with the opinion that the old land is not played out yet.



BARE places under trees may be greatly improved in appearance by planting shrubs that naturally grow in the shade of woods. Among such are periwinkles (*Vinca*), St. John Wort (*Hypericum*), ivy, butcher's broom (*Ruscus*), privet, *Daphne mezereum*, box, spindle tree (*Elaeagnus*), holly, yew and various kinds of *Prunus*.



The Month's Work

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

FLOWER BEDS AND BORDERS.—It is considered a settled point with experienced flower gardeners that the majority of the plants now used for long-continued masses of bloom are as exhausting to the soil and require to have as good a foundation laid



JOHN H. CUMMING.

for their culture as most of our vegetables, and it is a matter of very great importance that the principles of good cultivation in the preparation of the beds should be specially made. The miserable appearance of many a villa and cottage flower plot owes its origin to the idea that our present flower garden plants do not require careful cultivation such as would be expected to produce good crops of vegetables. In order to get fine, healthy plants and a long-sustained array of bloom in the case of the great majority of the plants used it is necessary that the beds or borders be well drained, deeply worked, and well manured.

The extent to which manure is to be applied must be regulated by the nature of the soil and dryness or wetness of the district. If the soil is naturally shallow or sandy it is greatly improved by having a quantity of heavy, loamy soil incorporated with it. The best manure is cow-dung that has lain some months and lost its rankness. For heavy, loamy soils well decayed stable dung and leaf-mould is preferable. These manures should be applied when the beds are being dug or trenched, in autumn or early spring, and the present

month is a suitable time for this work where it has not already been attended to. Bone-meal is an excellent manure for the majority of flower garden plants, and a sprinkling sufficient to whiten the surface of the soil is enough. This is a convenient manure in the case of the owners of small gardens who may have a difficulty in getting the other manures referred to. Where the rainfall is great, and such things as pelargoniums grow too much to leaf, the soil should be raised more above the ground level, and of course manure should be more sparingly applied generally.

DAHLIAS.—The middle of February will be a suitable time to take dahlia roots from their winter quarters, when the roots should be neatly trimmed, and placed in boxes or on the floor in a warm glass-house. The roots will, of course, be arranged crown upwards, and should be covered with some light material, such as leaf-mould and old potting-soil. In two or three weeks' time young growths will make their appearance, and these, if very strong and sappy, had better be thrown away as useless. Firm growths, about three inches long, make suitable cuttings, and may be taken off with a "heel" if preferred. After careful dressing and the removal of the lower leaves, the cuttings may be inserted in small pots or boxes filled with somewhat sandy soil, and placed on bottom heat of, say, 70 deg., where they will root in from fourteen to twenty days. If only a few plants are required, the roots may be started later, and broken up, retaining to each shoot a piece of the tuber. These roots may be potted up at once into five and six inch pots, but the plants from cuttings will, when rooted, take two and one-half inch size to begin with, shifting into larger pots as required.

PLANT LABELS.—An interesting feature in a garden is in having things named. When freezing and thawing take place give an occasional look to the labels, as they are apt to be displaced, and renew any that are illegible. Fine examples of how this should be done may be seen in the Glasnevin Botanic Gardens and in the People's Gardens, Phoenix Park.

WALL CREEPERS FOR TOWNS.—Passing a suburban villa lately I noticed an attempt being made to grow in the area the Fiery Thorn (*Crataegus Pyracantha Lelandi*). Planted in a shallow box, and the shoots tied to some trellis work, it was only in life, and certainly would not afford its owner much pleasure. Apart from any sentimental desire for certain plants, situation and means at command to ensure a measure of success should be considered. Suitable plants for such a purpose will be found in *Ampelopsis veitchi*, which seems a favourite creeper in the areas of suburban houses around Dublin. The common Irish and other green ivies also do well. Then we have the Chilian Glory Pea, *Eccremocarpus scaber*, *Ceanothus Gloire de Versailles* (this requires feeding with manure water during summer), *Wistaria sinensis*, *Jasminum nudiflorum*, for winter flowering, and *J. humile* and *officinale* to give a summer display. Instead of shallow boxes which can give so little root room for these plants, small barrels about two feet high answer the purpose nicely. These should have several holes bored in the bottom, and drainage in the form of broken pot shreds, stones or clinkers, put carefully over the holes to allow water to escape readily. On the drainage place some

rough pieces of turf, and fill up with good loam, a little leaf-mould, and some rough broken charcoal through the soil to keep all sweet.

EAST LOTHIAN STOCKS.—Where stocks are up, appreciated and enter into the summer bedding arrangements, the East Lothian or Intermediate strain yield a wealth of bloom which for delicious fragrance and delicate colours cannot be surpassed. Three years ago some friends tried to persuade me that these stocks flowered too late in Ireland to be of any service. This is not so, as I had a thousand plants of them in bloom last year from the middle of July till well into October. A good strain should be selected, and the seed sown at once in well-drained boxes of good loam, and covered lightly with sandy soil. Place in a temperature of 50 to 55 deg. till germination takes place, keeping the boxes near the glass in a light and airy position and be very sparing with water. When the plants are an inch high, prick off into frames or boxes, and keep close for a few days till they recover the shock of removal. If the soil is fairly moist there will be no necessity to water for some days; the drier all stocks in their young state can be kept without flagging the better till they have taken to the soil and growth is active. Abundance of air will be necessary afterwards when sturdy plants will be ready to put out early in May.

CHRISTMAS FLOWERS.—This sounds a bit belated, some may think, but it is flowers for next Christmas I want to refer to. A look round the florist shops during Christmas week showed how the refrigerator had helped the flower supply that was not dreamt of a few years ago. By the process known as retarding bulbs and roots, such things as lilliums, gladioli, narcissus, and lily of the valley can be had in abundance at Christmas without the trouble of much forcing and the raising of a huge coal bill. The bracts of *Poinsettia pulcherrima* seemed to be more plentiful than usual, and what can be more telling on account of the brilliant colour they impart to a group in which white or light-tinted flowers predominate. When poinsettias are past flowering, let them be partially dried off and rested by being placed in a cool house. In April cut the plants back, leaving only three or four eyes of the young wood. Introduce into heat, and when the young growths are a few inches long strike these by taking off each with a piece of "heel." After being established in six-inch pots grow on in a cold frame during summer. Get the wood well ripened, which is the secret of large bracts, and give frequent doses of weak manure-water during the season. Cuttings struck in June will make nice decorative stuff in five-inch pots at Christmas. Again, the late flowering chrysanthemums are a host in themselves, and are of the utmost service to the decorator at Christmastide. Seasonable notes have recently been given to strike these, but another batch struck in February and March will ensure a supply when the earlier plants are over. Some fine varieties are now available for late work, the blooms of which are not only valuable in a cut state, but the plants themselves can also be used where bold and effective groups are wanted. One of the grandest whites I have seen is Queen of the Exe, and is largely grown for Christmas work at Mount Merrion, Blackrock. *Salvia*

spicandens, with its rich, velvety scarlet spikes of flower, is also welcome at the festive season, and no one who can afford it room should fail to grow a few. Treat it in every way similar to the chrysanthemum. It can be grown by sowing the seed now in a gentle heat, but cuttings struck in April from old plants that have been cut back make a more dependable stock for late blooming.

SEEDS TO SOW.—A start may be made this month by sowing in heat such things as begonia, lobelia, petunia, *Phlox Drummondii*, and tender climbing annuals. An early start is important in having strong, sturdy plants for May planting. Gloxinia seed sown now will also provide plants for flowering indoors next autumn.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

PLANTING. —Push forward the planting of fruit trees and bushes, where such remain to be planted, every favourable opportunity that presents itself, always bearing in mind that the soil must be dry, otherwise more harm than good will result. Planting may be continued with safety all through the month, but the earlier it is done the better, as late planting means extra labour afterwards, watering, &c., also chances of success are somewhat diminished. In planting fruit trees it is of the utmost importance not to plant too deep. The ground, having been prepared by deep digging in autumn or early winter, will now be in fine condition for this work. First,



WILLIAM R. SPENCER.

mark position of each tree by placing a stake in the ground so that all may be properly proportioned over the whole intended plantation. Then commence by opening a hole wide enough to receive the roots when fully extended without coming in contact with its sides—its depth must be guided by the size of the tree. Cut away any broken or torn roots with a sharp knife. Cut from the under side in a slanting direction outwards. Place the tree in position, spreading out the roots to their fullest extent, and distribute them as evenly as possible all round. Cover each root with fine mould, and as filling in proceeds work the soil between the roots with the hand, so that no open spaces may be left. When finished the surface roots should be covered with about three inches of soil, and all should be somewhat higher than the surrounding level. The nature of the soil must be considered in determining its height—heavy, retentive soils requiring it higher than lighter ones.

Make firm by pressing the soil with the foot. Secure the tree to a stout stake. Water, and afterwards mulch with littersy manure as far as the roots extend.

PRUNING.—Complete the pruning of bush fruit as well as apples, pears, and plums, and, when doing so, scions of apples and pears, if such be required for grafting purposes, may be secured. These to be taken from branches well exposed to the sun. They should not be taken from the centre of trees, as these are not so ripe or firm as those more fully exposed. Tie the different varieties in bundles, label, and have them heeled in a position shaded from strong sun, where they may safely remain until required.

HEADING DOWN OLD TREES.—Trees not satisfactory from whatever cause, either becoming worn out or not suitable to the district, should either be cleared out and varieties known to do well in the same orchard or district planted in their place, or if the stock and portion of the branches be healthy they may be grafted. If the latter be decided on, the branches may now be sawn off a little above where it is intended to insert the grafts, it being better to make a fresh cut as the grafts are being inserted.

OLD ORCHARD TREES.—There are throughout the country many old neglected orchards in which the owners appear to take very little interest. Generally the trees are overgrown with moss and lichen and infested with insect pests of the worst description. In fruit growing districts the owners should be compelled to have them properly cleansed or else burned, as they are nothing short of breeding ground for such pests. If such were done it would greatly assist in keeping in check the many ills to which fruit trees are subject. Many of these trees might be greatly improved by a judicious thinning out of the branches, manuring, and cleansing of the whole trees.

To cleanse the trees, first scrape the trunk and main branches with a piece of hoop-iron or similar blunt instrument, to remove moss, loose bark, &c., and afterwards spray the whole tree with one of the many caustic sprays now on the market, or, better still, a home made one. Appended are a few receipts for making winter washes which are thoroughly reliable, or freshly slaked lime may be used, applied while the trees are damp, and on a calm day. The result, however, is not nearly so satisfactory as that obtained by the use of a caustic wash:—

WINTER WASHES.—Instructions for making winter washes, to be used not later than the end of the month.

1. *Caustic Wash.*—Ingredients for making 10 gallons.

Iron sulphate	½ lb.
Lime	¼ lb.
Caustic soda	2 lbs.
Paraffin	5 pints.
Water to make	10 gallons.

Dissolve the iron sulphate in 9 (nine) gallons water. Slake the lime with a little water, then add a little more water to make into milk of lime. Strain this into iron sulphate solution, to remove any particles which might clog the spraying machine; add the paraffin, and churn into the mixture; lastly, add the caustic soda, when it will be ready for use. Thus made, an agitator is not necessary in spraying machine.

2. *Caustic Wash and Fungicide.*—Ingredients to make 10 gallons.

Copper sulphate	1½ lbs.
Quicklime	½ lb.
Caustic soda	2 lbs.
Paraffin	5 pints.
Water to make	10 gallons.

Make in exactly the same way as (1), substituting copper sulphate for iron sulphate, and using ½ lb. quicklime instead of a ¼ lb.

3. *Caustic Wash.*—Ingredients to make 10 gallons.

Caustic soda	1 lb.
Crude potash (pearlash)	1 lb.
Soft soap	¾ lb.

Dissolve the soft soap in a gallon of boiling water, also dissolve separately caustic soda and crude potash each in one gallon of water; mix all thoroughly, and make up to 10 gallons by adding clear water.

The above three washes have been tested, and any one of them may be relied on to thoroughly cleanse the trees of moss and lichen, besides destroying the eggs of many injurious insects. Wash (2) is the one considered to have given most satisfaction. (Both (1) and (2) are recommended in the eighth report of the Woburn Experimental Fruit Farm.) Buy the different ingredients from a reliable source, guaranteed of the strength required—viz., caustic soda, 98 per cent., and crude potash about 80 per cent. Apply with a spraying machine on a calm day in as fine a spray as possible, so that every part may be thoroughly wetted. These washes are very caustic in their action, and care must be taken to preserve the face and hands from coming into contact with them.

FRUIT ROOM.—Examine apples in store frequently, and remove any showing signs of decay. If frequently examined these will be noticed in time to be of use in the kitchen. Frost must be excluded, and to do so the windows may be covered by nailing mats or sacks over them and closing shutters, if provided. Keep as dry as possible without using fire heat; this may be done by regulating the ventilation, opening slightly on fine days and keeping close during wet and frosty weather.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

GENERAL WORK.—"Fill dyke" is the term an old saw applies to this month. But there is no rule for weather at any time in our erratic climate.

Therefore there is no rule for sowing seeds by date, for the proper condition of the soil is one of the chief considerations. It sometimes chanced that we get a dry spell of weather towards the end of this month, in which case it ought to be seized on for the preparation of ground and the sowing of onions and parsnips. If the soil condition suits, this can scarcely be done too early. With onions, the seed is often sown too late, too thickly, and too deeply. Thick sowing weakens the plants from the start, covering the seed too deeply helps to encourage thick necks and bad keepers. Onions require an open aspect and a firm seed bed.

When the soil is dry enough fork the surface of the

ground quite fine. The land should have been well manured and trenched for some time. The lines ought to be drawn about a foot apart and half an inch deep. A greater distance may be allowed between the lines when there is no scarcity of space, as it facilitates tillage. Tread in the lines, making sure that the soil is made uniformly firm on the seeds. The stroke of the back of a spade will ensure this. James Keeping and Bedfordshire Champion are favourite main crop varieties. Tripoli onions should be transplanted into richly-manured ground, leaving enough undisturbed in rows or seed beds to form a first supply. Plant in lines a foot apart, covering only the roots of the plants, and making firm. If frost follows planting, when past, go over the lines and firm the plants again.

Garlic and shallots might be considerably more grown. Garlic is profitable to grow for sale as a medicinal product. Shallots are excellent for pickling, and both are otherwise of value in the kitchen. Plant the cloves (divisions of the bulb) of garlic separately, in light soil six inches apart and two inches deep, in beds or borders. The same distance will accommodate shallots, but where space permits it is better to allow a greater distance. Shallots like rich soil well manured, and may be planted like potato onions—that is, the bulb hardly covered. Towards the end of the month, if a sowing of round spinach can be got in, it will be found very helpful to fill the gap that occurs when the winter spinach and seakale are over, and before peas and cauliflowers come in. Choose a friable border in a sunny place, and sow the seed thicker than in later sowings, as less may germinate, but thin out in time.

Sweet, juicy white turnips will be well appreciated, too, early in the season; some stratagem must be made to meet this demand. Deep and wide trenches filled with stable dung and covered with light, rich soil are sometimes prepared. On these trenches Early Milan variety is sown. The heating material promotes quick growth, which is essential for sweetness and tenderness. Open, mild hot-beds are also a means to this end.

SOWING THE SAME VARIETY.—Early in the season we must be wary of the turnip fly, and have soot and lime in readiness. Make sowings of broad beans, Early Mazagan and Long Pods; a little parsley might be sown in some early spot. Cultivate cabbage plots, and where asparagus beds have not been mulched, see to this without delay. On heavy land this is best left till this month. Plant Jerusalem artichokes, choosing the roundest and best tubers for seed. Allow thirty inches between the rows. These plants can be made useful as wind screens for other crops. Plant Forse raddish, choose clean pieces of root, and remove the crown of each with a knife before planting.

PEAS.—Make sowings every fortnight in sunny, sheltered situations, and in well worked land. Unless a dwarf variety of pea is desired, Gradus is recommended for these sowings. If stakes cannot be obtained very dwarf kinds, as William Hurst or Chelsea Gem, must be grown. A covering of light, dry soil, containing wood ashes, leaf-mould, &c., from the potting shed is a good preventative of these marrow fat peas rotting before germinating, which often occurs in very wet weather. A coating of red lead on pea seeds helps to protect them from birds. Put seed in bowl, sprinkle

with water, and dust over with red lead, stirring till each seed is evenly coated. In the event of a mild time towards the end of the month, peas that have been sown in frames may be transplanted into the open. A nice, warm border should be selected for them. Earth up with soil as plants admit, and stake the rows at once, using pieces of spruce or other evergreens here and there to shelter them from wind and frost. If the soil is in wet condition, or if no suitable site be available, defer this work till next month. Have enough pea-stakes dressed and trimmed and in every readiness.

POTATOES.—Potatoes growing in pits must be earthed up as they require it, and given plenty of air whenever the weather permits to prevent them from being drawn. Be in no hurry to plant out sprouted tubers in quantity. If the buds of some are getting too forward, and if the condition of the soil suits, a limited plantation may be made in a sheltered south aspect. But do not forget that the very early planted potato often catches the worm—that is, the wire-worm—or the wire-worm catches the potato, and so does our old friend the slug, and rot may overtake the seed in the ground if hard weather checks their growth, and late frosts may have to be specially guarded against in the matter of nightly covering later on, which is plaguey troublesome. Give attention to the sprouting tubers, retarding and hardening the buds by exposing to full light and by ventilating when safe to do so. In light lands in the County Cork the early variety Duke of York cropped well, and the quality of potatoes was first class.

SEAKALE.—This most excellent and highly prized vegetable is rarely plentiful enough anywhere. Whether for sale or as a home luxury (for such it certainly is) it ought to be much more grown. When the blanched crowns are first cut from plants in the open ground it is a good time to propagate an adequate stock. After the first cutting lift the roots to be propagated from. Cut into lengths averaging about five inches long, and with a sloping cut at the bottom of each piece to distinguish it. Class these pieces of roots into sizes. Plant out into trenched and well-manured ground, allowing two feet between the lines and about one foot between the roots, or in stools of three feet every way. The thick pieces or settings will bear forcing the following year. Their growth is greatly assisted by watering or by feeding with liquid manure in dry spells during summer. Salt used judiciously as a manure will encourage fine growth. Before this date stools or lines of seakale in the open should have a good covering of screened ashes piled on them to blanch the heads as they grow. Amateurs sometimes wrongly neglect this till growth is started.

RHUBARB.—It is a pity that more rhubarb is not forced in this country for marketing. The great amount that is supplied from across channel to Dublin markets, and the big prices obtained for it early in the season, are proof of the profit arising from its cultivation. This is a good month to propagate it. Choose strong crowns from early, good stools; cut through roots with a spade, and plant out in fresh land that has been liberally manured and deeply trenched. Four feet every way between the plants is ample space for the early varieties. Plant firmly, and let the crowns down to the level. When planted, a light covering of littersy dung should be

placed over the crows. These will not be strong enough for forcing till the second year, but development is greatly assisted by the use of liquid manure during the growing season and by not pulling the stalks too hard.

PRICKING OFF SEEDLINGS.—Celery and cauliflower seedlings sown last month must be pushed on as rapidly as possible. When fit to handle, prick off celery into boxes with a layer of rotten dung in the bottom, and fill with fine, rich soil. If possible, place in frames on gentle bottom heat. If pricked off directly into a frame that has been prepared with gentle bottom heat, and with fine, rich soil near the glass, celery plants will develop faster and better than any other way. Cauliflowers sown last month can be best treated in the same way. The same can be said of lettuce. Brussels sprouts and onions should be pricked off into boxes, and when restarted into growth, in a lightsome position, in gentle heat, they can be removed to frames, ventilation to be attended to in every case.

SEEDS IN HEAT.—Sow for succession tomatoes, celery, lettuce, &c., as recommended in last month's calendar. Pot on tomatoes when a couple of pairs of leaves are made, using fine, porous soil, and placing well up to the glass.

FORCING DEPARTMENT.—Cover seakale and rhubarb in the open with pots, barrels, &c., and fermenting material if necessary, to keep successional supplies. Asparagus will now force readily with bottom heat in frames and pits. French beans may still be sown in pots, and mushroom beds made in houses. Sow carrots and radishes in hot beds for succession.

Roses.

By O'DONEL BROWNE, M.D.

NOW that it has been decided beyond all doubt that the Royal Horticultural Society has decided to hold a rose show on July the 20th, I feel I ought to write a few hints to any novice who may aspire to showing at that show. Firstly, then, let us commence some time in February, when the soil's condition is suitable, to very gently prick up any caked beds, or, better still, only use the hoe and strive and keep the top inch or so in a fine and crumpley condition. See to your wall roses, and tie in the best ripened shoots at the end of the month. In the summer-flowering Rambler section do not use the knife save to remove any dead or over-crowding shoots. Defer your pruning of H. P.s. and H. T.s. until the end of March, and your Teas until about the second week in April. Prune all your roses harder than you have done so in former years, and only keep well ripened shoots. When you notice the remaining eyes, after pruning, commencing to swell and push into growth, which they will do about the middle of April, go over your trees and remove some of those growing inwards towards the centre of the plant. Do not be hasty or rash—a little now and then is better than one great clearance. Try and distribute the flow of sap evenly about. When you notice the foliage just appearing keep a sharp look out as often as you can for the worm in the bud. Find him as early as you can. If you get any buds—*i.e.*, eyes bored into—that shoot is useless for show purposes, and you must select either one of the two side dormant eyes or an eye

lower down which looks outwards. Should green-fly make its appearance you must check it as soon as possible. Wall and pillar roses are the most commonly affected. By the middle of May go over and judiciously thin any in-looking eyes, shaving them clean off with a sharp knife to the level of the wood they spring from. About the beginning of June you will notice tiny flower buds set on your bed plants (wall roses will have got theirs 'ere this). The earliest of these will be too early for July 20th. It has been reckoned that from once the bud (flower) is set until it is cut is in or about twenty-eight days. What we want is a bloom just "set" about mid-June, therefore the shoots to mind are the middle and late setting ones, and not the extra early ones. Allow some early ones to develop, and try and encourage some of the latest also to grow. On the top of each flower shoot you will notice a crown bud and several, generally two, side buds. Some varieties, like Her Majesty and Mildred Grant, have only one bud. Carefully look at the crown bud first, note if it shows any irregularity or if it is malshapen. Provided it is alright, then leave it and one of the lowest side buds, and remove all the others. If it (the crown bud) is not correct, remove it and retain two side buds. Do this with all plants for exhibition flowers. When later in June or early in July you notice how matters progress as regards your chances for having flowers on the 20th, remove one bud and let the remaining one come on by itself. It is a trouble to stake every shoot, but it is the safest procedure. Watch for mildew and attack it as early as you can. I have said nothing about how many shoots carrying flowers you should keep on your trees, but a safe number is four. Over thinning will make some blooms come coarse, but some varieties like it well.

The hardest, and yet the most important, point to grasp is not to have all your shoots crowned by buds of the same age; try above all things to have a succession in age; then should the weather suddenly change it matters not so much. Do not forget your hoe—there cannot be too much hoeing done. In the way of extra feeding it would be well to dress your beds early in February, and again at intervals, with some artificial compound manure to give your trees help. These manures must be used judiciously, but beware of your foliage when applying the manure. If it should be showery weather when applying the manure so much the better. Experience alone can guide you when and how much to apply, but do not be stingy, your roses will repay you a hundredfold. The question of shading flowers is a most interesting one, and cannot be gone into now, but shade you must if you want perfect flowers. Get some shades from a maker, any seed shop can supply you now, and whilst you have time get to work, and make some over your fires at night. Make them larger than those usually sold, as you may have an extra large flower to cover just before a show, and wind will shake a flower just sufficiently to damage its petals unless it is staked or the shade is big enough. Have plenty of shades handy; it is really surprising how many you will require some days when rain threatens. The person who cuts the best flowers is the one who works hardest and most often, and who does not spare himself until the show is over.

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Contents

	PAGE		PAGE
The Apple Sucker and its Treatment (9 Illustrations)	33	Sweet Peas for the Garden (Illustrated)	42
The Making of our Home (Illustrated)	36	Spring Flowering Shrubs (Illustrated)	43
The Herbaceous Border	37	Apples	43
Current Topics	38	The Month's Work (with Portrait Illustrations)—	
Roses	39	The Flower Garden	44
Lawson's Cypress	40	The Fruit Grounds	45
Notes	41	The Vegetable Garden	47
		Beekkeeping	48

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MARCH II
1909

The Apple Sucker and its Treatment

By FRED. V. THEOBALD, M.A.

CONSIDERABLE attention has been called of late to the great damage done in parts of England by the apple sucker, notably in Worcestershire, Kent, Cambridge-

shire and Lincolnshire. This has not been due to any foreign importation or home artificial distribution, or even any very marked abnormal increase in their numbers. It is mainly because growers did not notice these small insects which can do such incalculable mischief; they have noticed the damage, however, and too frequently have attributed it to frost. A casual glance would have at once revealed the true cause of the loss. In some districts, perhaps, we are suffering from an excessive wave of vitality, just as we again and again do with many insects and fungi, but its recent prominence is mainly due to the greater interest taken by growers in the various enemies they have to fight than to abnormal increase in numbers. Owing to the presence of the apple sucker in Ireland this article has been written at the request of IRISH GARDENING.

The apple sucker belongs to a family of insects known as *Psyllidae*, small creatures related to the plant lice or aphides. No less than twenty-eight different kinds occur

in Great Britain and Ireland. The apple sucker (*Psylla mali*) is one of the commonest. The eggs of this apple pest are laid in autumn on the shoots and spurs of all varieties of apples, and probably also on the wild crab-apple. By far the larger number are placed on and

around the leaf-scar ridges, some at the base of buds, others amongst the fine hairs on the year's growth. The eggs are quite small, but can be easily seen with the naked eye. In colour they are at first snowy white, but later assume a dull yellow or a rusty red hue. They are elongated oval in form, somewhat pointed at each end; at one pole is a thin process which bends under the shell. They are firmly fixed to the tree. The old egg shells remain for two or three years on the trees. These are apparently the ova, supposed to have been destroyed by winter washes. Oviposition takes place from September until the beginning of November. So numerous have I seen them in some plantations that the spurs have had quite a pale appearance. The ova hatch out about the time the buds are bursting or are ready

to burst. In England they have been found to hatch from the 24th of March onwards until the 27th of April. They do not all hatch out at the same time on any one tree, and there is much difference in time according to the variety of apple. For instance, on the Ecklinville they hatch out much sooner than on the Bramley Seedling, and about a week sooner on the Blenheim Orange than on the Wellington.

The eggs give rise to small, flat, dirty, yellow larvae, with dark markings and bright red eyes, which are



OVA OF APPLE SUCKER. (X 2.)

about the size of a pin point. These larvae at once crawl to the buds. If the latter are not open we find them waiting outside. As soon as they can they get



ADULT PSYLLA MALL. (x 10.)

into the buds and commence to feed on the young and tender growths. The result of their puncturings is that the blossoms are weakened or destroyed, and the young leaves assume a crinkled appearance. As soon as the buds open and the blossom trusses are free the lice pass deep down into them and suck away at the bases of the strigs. The result is that the blossom trusses turn brown and die. The dead trusses of blossom hold on the trees a long time, often into the winter, and give a very characteristic appearance to the affected orchard. A few shrivelled leaves may also hang on around the trusses. A very similar appearance I have often seen caused by brown rot. One can at once tell, however, if it is the apple sucker by the cast skins of the insects which are found sticking on to the leaves and at the base of the dead blossoms, their silvery grey colour showing up distinctly against the brown.

After a time the flat lice-like larvae change to the nymph stage, in which small wing buds are seen. This period is usually passed on the leaves, the nymphs living between two leaves, which are held together by the curious white or pale blue filaments they pass out of their bodies. These filaments are also characteristic of the larvae, and each has a small opaque globule at the end. These threads and globules at once show us the presence of apple sucker in the trusses as well as on the foliage. The nymph is usually green or yellowish green, flat, like the larva, but larger. The nymphal cast skins on a leaf are shown in the figure.



LARVA OF APPLE SUCKER.
(x 8.)

The adults are winged, and vary from one-tenth to one-eighth of an inch in length; they are green at first, later they become variegated with other colours. They hop and fly from leaf to leaf, but do not appear to do any harm. The psylla can at once be told from other leaf hoppers (*Typhlocybiae*) on apples by their wings being tran-

sparent and the veins distinct. These "suckers" seem to attack all varieties of apples, but some much more so than others. The short strigged varieties suffer the most, such as the Ecklinville, whilst the Worcester Pearmain seems to be the least affected.

Prevention and Treatment.—The damage done by the "apple sucker" is often so serious that we are compelled to adopt preventive and remedial measures. The prevention is the thing to aim at. At present nothing is known which will corrode the eggs of the psylla or to have any very definite

effect on them, that can be applied to trees unless so strong that more damage would be done to the trees than by all the insect pests put together. Statements that this or that wash will kill the eggs must be taken with great caution. The writer has not found one yet that has the least effect.

As damage is done to the just opening buds, when no wash will penetrate to the small lice, it is essential that we should try and prevent the insects from entering them.

This may be done to a very large extent by thickly coating the trees with lime and salt wash. This wash is made as follows:—Slake 1½ cwt. of the best white lime, fresh from the kiln, in a small quantity of water, then mix it into 100 gallons of water, strain off, so as to exclude all grits, into another receptacle, and add to the thick lime-wash 30 lbs. of dissolved salt.

If white lime cannot be obtained others may be used, but the former is the best. It is very important that the lime should be fresh and in lumps, and should slake slowly. This wash is improved by adding 3 to 5 lbs. of water-glass, previously dissolved in warm water, as it tends to hold the lime and salt wash longer on the trees. Water-glass is not, however, essential. The time to spray the trees is anywhere between the end of February up to the

time the bud scales are opening. The object to attain is to get as thick a coating as possible over the trees so as to cover the eggs. This coating prevents the young from escaping from the egg shell, and as the



NYMPH OF APPLE SUCKER.
(x 8.)



LARVAL SUCKERS WAITING TO
ENTER BUD.

majority of ova are laid where the wash collects, the effect is very marked in lessening the numbers of suckers. As many of the ova on the treated trees are seen to change to a leaden hue, it is also possible that the salt and lime set up some osmotic action, and so destroys the vitality of the ova.



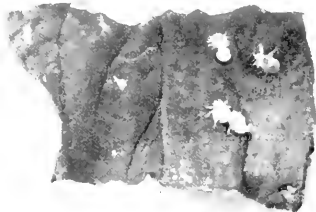
RUPTURED OVA. SHOWING PROCESS. ($\times 25$.)

Special nozzles should be used for this thick wash, as most nozzles clog with it very readily. The most satisfactory ones I have found are Gould's "Seneca" nozzles, which can be cleared at once by turning the tap seen in the figure, when the aperture is blown quite clear without any

waste of time in unscrewing the nozzle. Drake and Fletcher of Maidstone also make nozzles for this purpose. The success of this lime and salt treatment has been remarkable where it has been properly applied—that is, put on thickly. It also benefits the trees by cleaning them, and has a certain value in connection with the woolly aphid, and is most effective for plum aphid. The lime and salt get eventually washed into the ground, and also do good. It is surprising how much the general health of the trees is improved after this treatment. In two or three years a plantation may be practically freed of this pest, but it may be necessary to carry it over a fourth year. I have seen plantations which have not borne any fruit for fifteen years, owing to the psylla, yield after one year's treatment a fair crop, and still greater improvement in the following year.

Spraying to kill the suckers in the trusses can also be done with advantage. Paraffin emulsion may be discarded, as it does not penetrate down to the insects, and if it is put on with force and copiously it tends to burn blossom and foliage, and does more harm than the psylla. Quassia and soft soap wash is good in early stages of attack, and penetrates to some extent, but by far the most successful wash is tobacco wash. This I have found to work excellently and to have great killing power. If tobacco wash is used one cannot do better than obtain some prepared nicotine wash that can be relied on. Voss & Co. make an excellent wash prepared on the Woburn standard which has great killing power. It may be used on open blossom without any fear of harm. D. M. Watson, of South Great George's Street, Dublin, and Campbell & Co. of Manchester, also make reliable nicotine preparations. Unfortunately tobacco washes

are expensive. It is best, therefore, for the grower to rely on prevention by applying the lime and salt wash, which at the same time cleans the trees and makes them very



CAST SKINS ON NYMPHS. ($\times 2$.)

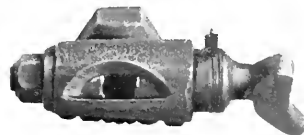
much healthier. Where lime and salt wash cannot be used, as, for instance, where vegetables, wallflowers, &c., are grown under the trees, it is well to spray the trees after the crop is pricked, when possible, with paraffin emulsion any time before the winged psylla commence to lay their eggs. If this is done a fine spray should be sent not only all over the trees but into the clouds of insects which fly down beneath the foliage. This will kill large numbers and prevent much egg laying. But if possible the lime and salt treatment should be carried out, or where flowers grow under the trees tobacco wash may be safely used to kill the larvae and nymphs.

MUSHROOM CULTURE.—"The Mushroom Tunnel" is the title of an interesting article in a recent number of the

Weekly Scotsman. The tunnel in question is an old railway tunnel in Edinburgh, that, falling into disuse, was let to a Company for the cultivation of mushrooms. The spawning beds are made 12 feet long, 3 feet wide, and 2 feet high. The manure for the formation of the beds is brought from the city in waggons drawn along the old rails. It is transferred from these at different points into wooden troughs, and frequently worked until the rank fermentation is over and the manure has cooled down to the safe temperature for spawning. Each bed is said to require from eighteen to twenty bricks of spawning material, and that the average yield therefrom is about 40 lbs. of marketable mushrooms. An effort is made by the use of an electric fan at one of the entrances to keep up as uniform a temperature as possible—60 to 65 degrees being aimed at. The writer speaks highly of the quality of the crop, and if the quality is as great as the size (judging from a reproduced photograph) we can well believe it.



A



B

SENECA NOZZLES.

(A) Set for spraying. (B) Open to clear blockage.

as possible—60 to 65 degrees being aimed at. The writer speaks highly of the quality of the crop, and if the quality is as great as the size (judging from a reproduced photograph) we can well believe it.

The Making of our Home.

III. The East Garden.

By CHARLOTTE G. O'BRIEN.

I WAS saved by a careless temperament and want of money from the pernicious facility of a "paper garden." A garden neatly laid out on paper, accurately measured, thought out and devised, may be all very well for straight town slips behind the houses that owe all their beauty to the hand of man, but for ground formed by nature and by her beautiful curving planes, trust only to the eye, then even the most defective gardening will yield lovely corners and contrasts. My house was on the east side, placed on the edge of a steep slope near the road. What was cut away for preparing foundations was naturally thrown down the slope, so when I got the land I had, on that side of house, first the only possible cart-road to the upper kitchen garden, then a very narrow green, and then a drop in parts of near twenty feet down in an abrupt slope. I laid out the garden as wide as I could, planted the steep edge with laurels and *Berberis Darwinii*, &c. It was well enough, but always the desire of a wider garden there was "on me," as we say in Gaelic. In my mind I sought to widen out into the air, but how was it to be done? I suppose if I had been a rich woman I should have built a retaining wall, spent a power of money, and produced something that would have looked nice some fifty years hence when well weathered and overgrown; but having no money to throw away, I had to achieve my airy flights into space some other way, and did, as I shall now tell.

Year by year I had two big rubbish collections from house and kitchen garden put together on the hill-side. I collected one heap (say) this year, second year worked it up, covered with manure, &c., and grew marrows on it. The third year it was again broken up, the best stuff taken for flower garden uses, and the rest was "barred" down my beshrubbed slope. Year by year in this way I pushed out my border a foot or two in width. At last what I called my "hanging gardens of Babylon" had advanced so far that only some strong laurels and other shrubs were retaining the earth, and the fall was almost like a wall; but it was not finished looking. Then I cut my laurels half-way down to the strong wood, laid the cut branches on top, where they were well

supported by the strong undergrowth. Then I turned rubbish, sticks, &c., on them, and finally good garden soil to the desired upper level. To keep it all together I got from rough corners a lot of old, big plants, periwinkles, artichokes, daisies, veronicas, goats' rue—everything I could lay my hands on. Digging them up in big blocks and laying them on their sides, I built a wall of them through and over the laurel stumps, giving a slight slope inwards, and putting a good mass of rubbish and earth on each tier of plants. I trusted to the roots to hold all together, but must own I feared a landslip! However, the landslip did not come off, and on these airy foundations last winter I ran a walk "to the stars," with a charming seat-corner overlooking the river called Casseopeia's Chair. This walk encircles the hill I had built up in space, and last summer my vegetable wall was a mass of flower and growth, and might have been there for fifty years by the look of it. The landslide may come off yet; who knows! but I hope not, and meanwhile my green wall and airy walk are an example of the fun one can get without money if one uses one's wits. County Limerick people have a saying, "you can do a lot with and with," though it too often means with them a very lazy "little by little."

There are not many people who want to fill a twenty-foot drop, but there are plenty who want to hide a bare wall, and who would also be glad to keep in their narrow limits big, coarse, handsome plants, who could do both in this way. Great clumps of roots, ornamental side out, laid one on top of another, and well backed with any garden rubbish and light-growing shrubs with cord-like roots to hold all together interspersed here and there (for instance, scarlet-berried elder, veronicas, &c.). These coarse flowers make a fine show in a few weeks or months, and enable one to keep the house in cut blooms without having to lay the finer garden bare pretty much the whole season.

[To be continued.]



GORSE (FURZE OR WHIN) is so common that it is, as a rule, disregarded as an ornamental shrub by planters. And yet there are few plants that really excel it in decorative value. In large, mixed borders or on banks it has a charm that is all its own. If seeds are gathered when ripe and sown at once they will germinate in spring. If you have room for them give them a place. Because they are common on the hills is no reason why they should be excluded from our gardens.

The Herbaceous Border.

By FRANK HUDSON.

HERBACEOUS plants have become in recent years extremely popular. In the first place, they are easy to grow; a well laid down border will give bloom of some kind for at least nine months in the year. Again, the border is a really more natural form of flower gardening than any other, for once the plants are put into their quarters there is very little care required for some years after being planted.

The planter must also remember that this is a bit of work to last for years, and that when it is done well there will be very little labour afterwards, with the exception of slight forking, mulching, staking tall varieties, and the keeping down of annual weeds. Compare this class of flower gardening to the stiff, unnatural beds of carpet-work or the ordinary show of summer or spring bedding plants which, as a rule, would not last six weeks at a time; and again, the labour of keeping these plants, as well as the fuel that has to be burned to keep them alive throughout the winter, not to mention the lifting, planting,



THE EAST GARDEN AT ARDANOH, FOYNES.

With wood and hill beyond. The lady sitting slightly apart on the right is Miss O'Brien; a fine specimen of New Zealand flax is on the left. The Memorial Cross (to Lord Montezagle's father) is a prominent object on the distant hill top.

The first essential is a good site facing south or south-west if it is possible. A background of evergreen or deciduous flowering shrubs will give a good effect, or a high wall covered with creepers would suit admirably. The border should be some distance from tall-growing trees, as the roots of them would penetrate into the soil and rob the plants of their food. The next thing to consider is proper drainage. The intending planter must remember that it will pay to spend time and money in the thorough making of a border. If the soil is shallow add clean soil from an old pasture; see that all underground weeds are cleared out; manure thoroughly with farmyard manure—in fact, a border should get the same treatment as a border prepared for vine growing.

propagating, &c. March is an ideal month for planting an herbaceous border, as the plants are just beginning to get active in growth.

Several nurserymen are now making a speciality of herbaceous plants, as the other forms of spring and summer bedding are going out of fashion in many places. The intending planter should write at once for catalogues of herbaceous plants, and he need not leave Ireland to find nurserymen supplying this class of plant. We have several nurseries in this country devoting a lot of labour to this particular department, and I am certain the purchaser will get all the assistance in regard to selection, culture, &c., gratis from any of these firms.

Current Topics.

By E. KNOWLDIN, F.R.H.S., Secretary, Royal Horticultural Society of Ireland.

"HERE'S a pretty how-d'y' do" said our familiar friend when straining at the pabulum provided by the Woburn experimental planters. Well, not a few find it hard to swallow, for, like a dose of the wrong medicine, it is both nasty to take and bound to disagree; and we were beginning to settle down so nicely, too, after the nitro-bacterine explosion at Wisley. That, indeed, was not so bad. In that was no old-established tenet of the great gospel of gardening which age could not wither or custom stale; as a matter of fact we were a little suspicious of that subtle something which we could neither see, feel, smell, nor hear, and the orthodox believers in the venerable muck doctrine smile broadly as they again trundle out the animal—Phew! Comparisons are odorous. But to the planting—er—er—beg pardon, shoving 'em in—our good apples, pears, plums, so conscientiously prepared for us by the Paradise Stock Co., Ltd. It's all over; done with; fizzled out, and we poor planters who took such pains to spread our roots are now a foolish and forlorn generation. We have all prayed wrong, and frail is our faith. Planting, save the mark! will now be done by anyone who is qualifying for an old age pension, and can "howk" out a hole two sizes too small for a tree three sizes too big for it. Shove him in! Double up his roots! It's of no consequence, thank you, as the immortal Toots would have remarked. But what have practical planters to say to all this? That is the point, and surely they of all men have woe enough without this Woburn worry. Truly it is a hard nut to crack, yet the fact remains that the hardest nut is often minus a kernel. We don't say this is; somehow we don't seem to know where we are, but—next from Woburn, please.

Relevant to New Zealand flax as an industry we note that at a meeting of the County Down Committee of Agriculture a report from the flax sub-committee (*Irish Times*, Feb. 8th) states that "... all efforts put forth seem to have failed to improve either the yield of the flax or the quality of the flax crop." That sounds sad; still, it was rather nice to find by the same report that upwards £3,000 of public money is available for the flax improvement scheme in Ireland. "Upwards" of £3,000! Dare one suggest to the flax improvement schemers that the "up'ards" should be devoted to the Phormium, leaving the big lump for the Linum—if it's worth it. This seems to be not only an industry on the wane, but difficult to explain why. We have been talking to one who reminisces on the good old days of flax farming, and in comparison with which it seems now to be fast going to the d— dogs. Prices now appear appallingly low to what they were then; owing to the manufacturing development of other things to compete with it, that, perhaps, is the cause, perhaps not, and it might be worth while for our Woburn friends to let off a little of their experimental energy in this direction.

That was a very handsome sample of flax leaves, by the way, sent up from the Loretto Convent, Bray, to the

last council meeting of the Royal Horticultural Society of Ireland. As a matter of fact, we have never seen *Phormium tenax* in such form, but we are not quite satisfied that it is tenax, and have ventured to add the provisional name of horiles to it. It is certainly not *P. obovatum*, the so-called Powerscourt variety, and in habit it seems somewhere between that and tenax; but there all comparison ends, for it is a noble flax, and the clump from which the leaves were cut is something over seven feet high. The specimen in question, which must have been growing in its position for many years, has not been known to flower.

Another current topic, pertaining to the higher ethics of soil production, is the threatened nitrogen famine. Do farmers and gardeners seriously realise what this means? Well, it means that in a hundred years—or is it a thousand? we are a bit hazy over this; perhaps it was a million, and to be on the safe side and leave no margin for recrimination when it does arrive we will say a million—in a million years there will be no nitrogen for love or money, save in our aerial envelope, to which it will have evaporated, and the only known way of getting it down will be to turn our old nitrateless planet into a pea field. Twenty years ago there was a similar scare about coal, which was then calculated, to the best of our recollection, to be just sufficient for two hundred millions of years; or was it two millions? These figures are a bit of a bother. Whichever it was, twenty years have gone out of it, and the big scare then ought by all the laws of logical deduction to be bigger now. We are certainly a heedless race, barring the tribe of black diamond traders who are coming to the rescue by a liberal seasoning of slates to spin out the supply in spite of our callousness. This is merely mentioned as being an old bogey that is only scotched, not killed, and it might have been settled before this new nitrogen worry came on us. However, to our nitrogen nut. One reads, and it is chilly reading, that the great nitrate fields of Chili are getting played out, and, of course, there is nothing new under the sun, but, in all seriousness, can anything be lost?

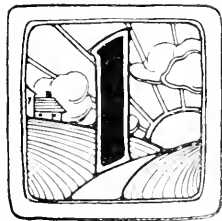
No. 1.—" . . . in the district between Curriek-on-Suir and Waterford there are at least 150 acres under willows, but the price realised per acre is so small that it would hardly pay for the cutting of the osiers."

No. 2.—" . . . I can confidently say that the growers I have bought from will have at least £5 profit per acre after cutting the crop, and the crop in most cases doubled by proper attention, and the willow would be more valuable."

Here are currents in conflict. No. 1 is from the departmental source; No. 2, a swirl from the backwash set in motion by the Industrial Development Association (*vide* report of latter, *Irish Times*, Feb. 17th). As we no longer use the willow for hanging our harps on, what position does it hold or is it likely to hold as an industry for us? All that appears left when adding these conflicting views together and dividing them by two is a warning to Waterford to be wary or it may find employment staring it in the face.

Roses.

By O'DONEL BROWN, M.D.



IN an article a few numbers back I treated the subject of Hybrid Teas. I pointed out the great value of this practically new class, but had it not been the lot of the hybridizer to already possess these lovely roses, we should never have had any H. T.'s.

The Tea class sprang into existence from two parents which came to us from China—namely, a pink in the year 1810 and a yellow in 1824. No one seemed to care very much for them in England, so they drifted to France, where attempts were made to hybridize or cross breed the one with the other. From this cross arose a great family, at first a few, but gradually the progeny was enlarged until to-day we number amongst our very best and most useful roses some of these grand-children of those Chinese parents. For a long time people were very loath to try and grow these roses, as report had it that they were tender, delicate, poor growers. Some of these assertions are true, but when we weigh the bad with the good qualities we are bound to admit that if we were to entirely eschew the Teas we would miss very many lovely varieties.

When first I took to Teas to try and grow them I often rued that I had them, as I thought I saw a huge failure, but a neighbourly voice over the wall of my garden told me to "bide a wee." When the following autumn came I had to confess he was right, for right there in same bed were flowers glorious in shape—and such quantities! From that day down I was a convert to the Teas, and now nothing will ever change me back. Taken all round, I think there is more charm to be found in the Teas than any other class, and if we exclude a dark red colour you cannot get such a wealth of colour in any other class as you will find in this great Tea class. A great point in their favour is that any soil, with very few exceptions, will satisfy them, and so most people who are not favoured with soil required for the Hybrid Perpetuals can enjoy his Teas. Also—and I think this is the greatest point of all in their favour—take a bush of a Tea rose and one of a H. P., and notice how many more flowers the Tea gives in a year, but especially during August and September, a time at which the Hybrid Perpetual is standing still.

Tea roses are very easy to cultivate provided you choose your site right—a sunny, wind-sheltered spot suits them admirably, and if you can give them some shade during mid-day so much the better. Planted against low walls this rose family revels in good growth and flowers, and is more at home in such a situation than elsewhere. They should be ordered early, and planted as early as possible. If your soil is a little gritty in character so much the better, for there is an old saying that "Teas like grit." Some people advise a heavy protecting layer of manure spread

over the bed during winter to protect the roots, but I never do this—indeed, my Teas are given just the same treatment during winter as any other plants I have; but should very heavy weather come it is advisable to draw a little earth up to and over the lower few inches of growth on dwarf plants as a protection. This should be removed as soon as the frost has gone. During recent years we have had some lovely varieties given to us, and foremost amongst these stands Mme. Jules Gravereaux. This is a strong grower, and likes a hot, sunny wall and good dry weather. It is an extra full flower, and contains many shades of colours in it. It is a very fine rose of great lasting properties, and one cannot have too much of it. It is a curious point to notice that Teas, as a general rule, prefer growing on a half-standard more than they do on a dwarf stock. Whether it is that they do not like being near the soil or that they require purer air is a vexed question, still the fact remains that to get most Teas to perfection you should grow them as half-standards. Should you want proof of this, just bud a few dwarf and half-standard stocks with Mrs. E. Mawley (in my humble opinion the finest Tea in cultivation), and you will find the standard grows better and throws finer blooms. True, both Maman Cochet and its white sport do as well as dwarfs, but the general run of Teas are happier as standards. Some are notoriously tender—e.g., Devonensis and Cleopatra—but they are lovely varieties. Some do better on a wall, and only give their best colours when grown thus—e.g., Comtesse de Naudillac. Some resent hard pruning, and some must be cut very hard, but the tendency is to prune this class far too hard. In pruning, therefore, be guided by their growth, and leave strong growers long. They should not be pruned until April, when you will find that frost has done nearly all the pruning required. Do not let the plants get "scrubby" in nature. If you notice this, cut them hard one year and the next year be more lenient.



PROPAGATION OF HOLLIES FROM BERRIES.—The usual practice is to collect the berries as soon as ripe, mix them with twice their own bulk of sand, then throw the whole into a heap which may be left for twelve months. Finish the mixture, sand and berries, is sown thinly in nursery beds of convenient width with narrow paths between. Two years may elapse before germination takes place, after which the seedlings may remain another two years before transplanting. At the end of this time they are lifted, graded into sizes, and planted in nursery lines. For the seed beds a fairly light loam is suitable, and for permanent planting a rich loam is the best, though it is well known that the common holly will thrive in soils of very varying quality. If only a very small quantity of seeds has to be dealt with, the mixture of sand and berries may be placed in a box and plunged in the ground, lightly covering with soil, subsequent treatment being the same as advised above. [Answer to a Correspondent.] J. W. B.

THE Ulster Agricultural Society's Horticultural Show will be held at Belfast on Thursday and Friday, the 22nd and 23rd of July next.

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Lawson's Cypress.

By A. E. MOERAN, Portumna.

FIFTY-FOUR years ago Lawson's cypress was unknown in Europe, but to-day it outbids in popular favour every other tree for ornamental planting, and in many ways it certainly deserves the “vogue” it has enjoyed. It has proved itself perfectly hardy in our climate, and indeed seems to prefer it to that of its far-off home on the Pacific slope. A well-grown specimen, some twenty or thirty years old, of this tree is the very type and embodiment of luxurious, overflowing health and feathery verdure. Such specimens we have in thousands all over Ireland, not only in the great parks, but in the suburbs of our towns, before the farmer's hall-door, in our country churchyards, and even bursting out of the little 10 x 5 garden of the waying cottage, where it is treated with much undue reverence under the borrowed name of “palm.”

Being a new tree to us, many people only know it as a convenient green sort of shrubby thing that does to plant close to an avenue or between two flower beds. As a matter of fact Lawson's cypress is the largest cypress in the world, and reaches a height of 200 feet and a girth of 40 feet, so wherever possible it should be given at least 30 feet elbow room. It will take a long time to make 200 feet in height, but it is astonishing how soon it begins to overgrow the aforesaid avenue or flower bed that seemed so far away when it was planted, and it is a thousand pities to see a tree maimed by pruning just when it is beginning to develop its real beauty.

Lawson's cypress is a fast-growing tree, and there are very few soils that do not suit it. It will grow on poor mountain land, and on bog, so ordinary garden soil is luxury to it. By the way, some people kill their young trees as fast as they get them (and then blame the nursery-

man) by putting in manure when planting them. On very poor soils a mulch overhead after the hole is filled in is useful, but never, never near the roots of the young tree.

Very few trees care for wind, and this particular tree is no exception. Harsh, continuous blowing it abhors, and to be, and look, happy it must have shelter from, at least, the prevailing wind. Unlike some accommodating animals that, if the elements are rude, grow an extra warm coat to shield themselves, the poor Lawson proceeds to shed what clothes she has, and daily becomes more threadbare and ragged and dejected until she would never be recognised as full sister to that graceful lady round the sheltering corner, with her thousand dainty green frills and her widespread skirts, for all the world like the flounced furbelows of our crinolined grandmothers.

Of the varieties of Lawson's cypress there are no end. It is from the States that we get those wonderful mechanical inventions such as the combination piece of furniture which, on having its button pressed, develops itself in turn into everything to make home happy, from a mouse-trap to a motor bicycle. From the States, too, comes Lawson's cypress, and its transfigurations are almost as wondrous, though about them there is positively no delusion. From parent trees of the common type hundreds of “sports” have been produced and perpetuated, so that it is really no exaggeration to say that we could plant a whole park with this one species and have no two trees alike in shape or colour.

There is “Erecta” (*Cupressus Lawsoniana erecta*) with all the branches close together and pointing upwards like a sweeping-brush. It has one unpardonable fault—the older it grows the more it shows its ugly feet and ankles, and whatever comes above ankles. For this impropriety, which nothing can cure, I would, if I planted it at all, make ERECTA stand behind a good, thick clump of laurels or rhododendrons. A very handsome variety is “Stricta” or “Frazeri,” growing in a slender, dense column, with beautiful blue-green foliage, and feathered down to the very grass.

Then there is Compacta and Nana, both low, compact shrubs used for terrace-planting, and to be had in green, light or dark, and in silver and gold. Of course, there is a Pendula too, and between these there are scores of intermediate forms and colours, most of them named,

but it is easier to order them by name than to get what you order.

Strangely enough, though this tree is so hardy and prolific with us, it is not a common tree in its own home, and there these varieties are almost unknown.

Lawson's cypress is often confused with other cypress, and with the different thuia's. An easy way to recognise a cypress is that its leading shoot is always drooping over in a tassel, while with a thuia it stands bravely upright.



A WORK of much importance to fruit growers will be published during the present month by Mr. Fred. V. Theobald, M.A., the well-known economic entomologist of the South Eastern Agricultural College, Wye, Kent. It is to be abundantly illustrated with photographic illustrations made expressly for the work. We hope to give a review of the book next month.

IN our issue of November last we published a letter from Mr. Seabrook which commenced with the words—"During my recent travels in Ireland I was much struck with the terrible prevalence of the apple sucker (*Psylla mali*) in practically every orchard I visited." Knowing that Mr. Theobald was making a study of this pest in English orchards we asked him to write an article for the benefit of Irish fruit growers. This he has most kindly done, and we call the special attention of gardeners and fruit farmers to his authoritative communication in the present issue.

WE wish to draw the attention of secretaries of local horticultural shows to a proposed series of articles which will appear in IRISH GARDENING in the issues of June, July, and August next. The articles are intended for the guidance of exhibitors at Irish shows, and will be written by experts, who will explain clearly the points of perfection to be aimed at both in growing and in showing horticultural exhibits. The idea was suggested in a letter from Mr. Harold Smith, joint honorary secretary of the Midland Counties Association, whose annual show at Athlone has developed into an event of national importance in the industrial life of Ireland.

MR. WILLIAM DAVIDSON, of the Carton Park Gardens, Maynooth, whose contributions to recent numbers of IRISH GARDENING have been so much appreciated by its readers, is on the point of leaving Ireland to fill an important appointment in the Plant Department at the Dell Gardens, Englefield Green, Surrey. We sincerely wish him success in his new duties, and feel sure that all readers of IRISH GARDENING will join heartily in the same wish, as also in the hope that Mr. Davidson will continue his connection with the journal.

POTATO TESTS, COUNTY LONGFORD.—From the results of a series of test experiments carried out by the county committee the variety Dalhousie gave the best yield in every case (13 tons 4 cwt. per acre) and is, therefore,

recommended as a good cropping potato for field use. The most profitable manure for potatoes was found to be 4 cwt. superphosphate, 1 cwt. sulphate of ammonia, 1 cwt. muriate of potash, with about 15 tons farmyard manure per statute acre. Another series of experiments showed the great advantage of using sprouted sets, there being an increased yield of saleable potatoes equal to two and a half tons per acre. In the recently issued annual report on the agricultural scheme of the County Longford (from which the foregoing facts are extracted) there is an instructive sub-report on the local progress made in horticulture, together with a mass of very practical information on the subjects of fruit culture and bee-keeping by the County Horticultural Instructor (Mr. Wm. Johnston).

MR. WM. BAYLOR HARTLAND, writing from Ard Cairn, Cork, tells us that the first early daffodils (*Cernuus*) have been in flower in his nursery since February the 4th. A lot of Ard Cairn-raised yellow seedlings, too, were in full flower during the month. He adds that "this will be the first intimation from all Ireland, I think. We have had no frosts all winter and very little snow." In the rest of his letter Mr. Hartland himself bursts into flower (of speech) over the supposed merits of this little monthly, but modestly forbids their quotation.

BUT we cannot resist the temptation of quoting an appreciation received from over the seas in far away Canada. Mr. James Bennett, writing from Ottawa, Ontario, says—"Of all the papers and journals that I peruse none gives me so much satisfaction and genuine pleasure as does your publication. It is an evidence uncontrovertible that with all its vicissitudes the love for the beautiful still survives in the minds and hearts of the men and women of mother Erin."

"The Sweet Pea Annual."

ALL sweet pea lovers who were present at the great show of sweet peas in Earlsfort Terrace last August will welcome the advent of *The Sweet Pea Annual*. It gives full particulars of the varieties shown at the Dublin exhibition as well as of those exhibited at the London Show in July last; these statistics are invaluable to all growers of sweet peas, and especially to those who grow for exhibition. The "Annual" contains interesting articles on subjects most attractive to the enthusiastic grower, such as "Winter Flowering and Early Sweet Peas," "Recent Developments among Sweet Peas," "Mendelism as Applied to Sweet Peas," &c. &c., and it records the cultural experience last year of most of the important growers in Great Britain and Ireland, as well as giving an account of the sweet pea trials that were held at Reading.

The National Sweet Pea Society is flourishing. Its membership is now nearly 1,000, and increasing rapidly every year. The "Annual" is its official organ, and it is sent free to all members. The annual subscription is only 5s., giving free entry at the shows and free admission, as well as copies of all the society's publications. Outsiders can procure the "Annual" for 2s., post free, from the hon. secretary, Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex.

Sweet Peas for the Garden.

By H. J. R. DIGGES.

IT is rather late in the day to advocate sweet peas for garden decoration; every garden lover knows that there is nothing so useful for decoration as they can be adapted to such a variety of purposes. What can be more suitable at the back of the herbaceous border than clumps or rows of sweet peas? What can so effectually hide an ugly corner or an unsightly wall, or cover an old tree stump or a stiff-looking trellis? Such things too often intrude in our gardens, but when clothed with sweet peas in their varied hues and wealth of bloom they become an added pleasure to all our other beauty. So far for the negative form of decoration; but what of the positive? Some swear by rows, others by

in a cool frame, and keep covered until the seedlings appear; the covers should then be left off during the day to encourage sturdy and hardy growth.

In the preparation of the ground almost every grower has his own special theory or plan. The chief point to remember is that sweet peas require at least eighteen inches deep of root-run, that they are good feeders, and that the plants should be at least six inches apart; if you can give more space and depth you will have better results and a greater quantity of bloom. If the subsoil is hungry (gravel or sand) it is a good plan to place a layer of turves, grass downwards, in the bottom of the trench to conserve some of the stimulants you administer when the plants are in full bloom, and yet not to allow a stagnation of moisture. Fill in your trench then with the surface earth, to which should be added a liberal allowance of well-rotted stable or farm-yard manure, and, perhaps, some of the special mixtures prepared for sweet peas, which mostly consist of bone meal, but above all things be careful not to over-feed. The ground must be rich in food, not stodged, for it is generally admitted now that the streak disease which has been so prevalent in many gardens has been caused by overfeeding in rich ground.

For supports boughs of hazel, beech or birch are the best. If these cannot be procured wire-netting (four inch mesh) makes a good substitute, a smaller mesh is very troublesome, for it is often necessary to get one's hand into the centre of the clump to gather the blooms or to train the growths. The netting can be supported by stakes one and a-half inches thick and eight feet high, four of these to each clump, fastened together at top by cross-pieces, this will make a support strong enough to withstand anything short of a hurricane.

The clumps may be from two to three feet in diameter, the earth being left saucer shape to catch the water. The seedlings should be planted in a circle inside the wire netting, and trained through as they grow, to hide the supports; this can be further improved upon by planting some surface-rooting, herbaceous plants or annuals outside the netting to cover the lower part, while the growths of the sweet peas will not hide.

Individual tastes must be brought into play in the selection of colours and varieties, but no garden should be without Dorothy Eckford (white), King Edward VII. (crimson), Miss Wilmott (orange pink), and Mrs. Walter Wright (mauve). None of the newer kinds excel these for substance and depth of colour. The waved varieties are, of course, most popular; but there is such a thing as an excess of waviness, the blooms being more like crumpled tissue paper than anything else. The following selection will be found most satisfactory for display, giving a great wealth of flowers all through the season, exquisite colours, huge blooms, and yet no coarseness or extravagance of form:—Helen Lewis (orange pink), John Ingman (rose carmine), Helen Pierce (marbled blue), Mrs. Harcastle Sykes (blush), Marjorie Willis (rich rose), Constance Oliver (buff shaded pink), Evelyn Hemus (cream with rose edge), Dodwell F. Browne (bright crimson), Mrs. Charles Masters (rosy salmon), Menie Christie (purplish mauve), Etta Dyke (white), Frank Dolby (mauve). These are all waved varieties, thoroughly reliable, most useful for garden or table decoration, and unexcelled for exhibition.



clumps; the plants can be more easily trained and attended to in rows, while the growths are more likely to become choked in the centre of the clumps unless careful training and judicious thinning is observed; the blooms can be more easily gathered in the rows, but for simple and effective garden decoration clumps are undoubtedly the best, especially if one has a lawn on which they can be dotted in a well thought-out haphazard fashion.

Sow your seeds at once; there is not a moment to be lost if your rows or stations are ready (as they ought to be), sow in the open, three inches apart, having previously taken out a trench six inches deep; cover the seeds with two inches of the surface earth, and make tolerably firm. This will leave two inches for earthing up the young plants and still leave a slight trench for retaining the water, when the watering-can or hose has to be brought into requisition. If the ground is not ready, sow in pots, five seeds in a five inch pot; or singly in three inch pots if you do not grudge the time or trouble, the seedlings can then be planted out without disturbance at the proper distance from each other, and will grow on without a check. Place the pots



By WILLIAM DAVIDSON, Carlton Gardens, Maymoath.

IN the early months of the year hardy flowers are comparatively scarce, and where space is available on a wall facing south, or some sheltered position provided in the garden, several flowering shrubs can be had to lend a touch of brightness to the otherwise dull aspect.

The Chinese winter jasmine (*Jasminum nudiflorum*) is a well known climbing shrub suitable for covering walls, and it has also a capital appearance when allowed to ramble over the timbers which, as a rule, constitute the roofs of pergolas, arbours, and other adornments of the garden. It commences to flower in December, and continues up to March and April to cover its leafless shoots with bright yellow blossoms. It is exceedingly hardy, and though it flourishes in any good and well-manured loam it seems to thrive in the poorest soil and in anything but favourable positions. Some suburbanites, possessed with a desire for tidiness, are in the habit of clipping this plant close into the wall about the month of November. This treatment removes the flowering wood, and consequently the plant has a bleak appearance all through the winter. The best time to cut in is just after the flowering period is over.

Lonicera fragrantissima, one of the Chinese honeysuckles, is a remarkably good species, and has sweet-scented, creamy white or pale yellow flowers. This plant is almost evergreen in mild winters.

Resembling the above is *L. Standishii*, another Chinese production. This plant is, however, deciduous, and has larger leaves with pinkish or purplish white flowers.

The winter sweet or Japanese allspice, as *Chimonanthus fragrans* is commonly called, has sweet-scented flowers which appear on the young wood. This shrub requires the shelter of a south wall.

Older shoots should be cut out each year after the flowers have faded.

The witch hazels are popular early-flowering deciduous shrubs, and in well-sheltered situations they are very conspicuous during the dull days of winter. Of the four species, perhaps *Hamelis arborea* and *H. japonica* are most frequently met with. They are natives of Japan, and flower from January to March. *H. mollis* is a Chinese species with larger leaves, having the under side covered with felt like down. *H. virginica* is the oldest witch hazel, and comes from North America. It flowers from October to February. The witch hazels are most effective when planted in groups by themselves,

and they require little or no pruning, merely the removal of dead wood or useless twigs.

The Laurustinus (*Thuunum Tinus*) is the best known representative of the genus viturnum. It is an evergreen shrub from South Europe, and commences to bear its clusters of white flowers early in December. Laurustinus is largely used as a pot plant for conservatory decoration during the winter months. A rich and moist soil with a sheltered situation suit their requirements.

A notice of winter-flowering shrubs would not be complete without mentioning those two conspicuous catkin-bearing shrubs which are at this time brightening up the landscape. *Garrya elliptica* is an evergreen from North America, and is well adapted for covering walls. The catkins are of a pale green colour, contrasting well with the dark green leaves. Our native hazel, or filbert nut (*Corylus Avellana*), is most attractive, and continues to brighten up its surroundings until the wind has performed the work of pollination.

Apples.

Bramley's Seedling.

By PATRICK MACDONNELL, Casketown, Carlow.

THIS fine apple was a chance seedling raised by a lady in England, who died before the tree fruited. Her place was taken by a Mr. Bramley, who when the tree bore fruit saw the superior qualities it possessed, and exhibited a dish before the Fruit Committee of the Royal Horticultural Society of England, who gave it a first-class certificate. It was put in commerce and shortly afterwards distributed. Although of comparatively recent introduction it has made rapid progress in popularity, and during its season, from Christmas onwards, for culinary purposes has no equal, taking all points into consideration. It possesses a strong, vigorous constitution, which makes it an ideal orchard tree. I will describe, for example, a tree here planted sixteen years, the first eight grown on cultivated ground and the last eight on grass. The tree is in bush form, the branches being bent to the ground by carrying heavy crops. Last season it bore ninety dozen apples, and I sold eighty dozen in a local market at 6d. per dozen, making £2. The smaller ones were kept for home consumption. If it takes 122 Bramleys to plant one Irish acre, and each tree paying as the above, it is easy to form an estimation of the large amount of money to be realised by apple-growing after all necessary expenses are deducted. Manuring forms an item of considerable importance, and should be applied when the trees are carrying heavy crops as a top-dressing or in liquid form. I like yard dung and artificials every alternate year, the latter to contain phosphates and potash. Shelter is indispensable in exposed situations. I like Lawson's Cypress for that purpose, and by mixing the golden and white forms with the green you make "a thing of beauty and a joy for ever." When the Almighty called the earthly paradise into existence, the apple for utility and beauty formed one of the most useful and ornamental objects that enhanced the gorgeous garden of Eden. "On earth's wide domain" is there anything more delightful

than an apple orchard in full bloom in spring. The development of the fruit is always interesting, but when coming to maturity how lovely! The beauty of the orchard could be increased if the planter, by a judicious selection of high-coloured varieties, planted at suitable intervals with his Bramleys, Worcester Pearmain, Gascoyne's Scarlet, Bismarck, Paradise Pippin, the beautiful Charles Ross (where it will succeed), and paler-coloured kinds, such as Ecklinville, White Trausparent, Blenheim Orange, Royal Snow, and my new dessert "Castletown." Is it not painful, humiliating, in fact a national disgrace, to see the thousands of barrels of apples imported into this country every year? Ireland that could grow not only enough for her use but export in quantity fruit inferior to none in the world! If our people could by any possibility be induced to use apples and fruit instead of alcohol, tannin, nicotine, and other slow but sure blood-poisons, what a great improvement, mentally and physically, they would effect after a couple of generations, proving an efficient antidote to tuberculosis, insanity, and in great part pauperism. Dear reader, should you be an amateur or cottager, and if your soil and situation are suitable, plant apple trees, few or many. Please remember—on performing the very important operation of planting in a proper manner success or failure very much depends. Do not let the painstaking and intelligent foreigner gather the golden harvest at your door much longer. With the revival or establishment of many Irish industries fruit-growing ought not to be so much neglected, particularly in this county, which was at one time famous for its orchards. If carefully and intelligently carried out it would prove a highly remunerative and delightful occupation, which you would soon learn to love, and be happy in performing small details so essential to successful cultivation.

The Month's Work.

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

NEW GROUNDS.—A few notes on laying out grounds may be useful this month when work of the kind is sometimes undertaken. It is important to have a plan that shall be sufficiently comprehensive to include the whole scheme of the location of buildings and drives and the plantings of trees and shrubs. Great care should be taken with the plan, as it is easy and inexpensive to make changes on paper, but often very expensive to make them with the actual material. The grounds about our homes are more or less an index to our character. We may look upon these grounds as a sort of setting for the home picture. It is desirable to get the whole family interested in such work, for there is nothing that holds the children to the home and excites their interest in country life as the trees and plants that they have helped to set out and care for. It is a mistake to plant trees and shrubs around a country dwelling in such shape that they cut off a view of such features as go to make rural life

attractive and pleasant. In planting do not set the shrubs out all over the lawn, but rather keep them in groups arranged along the sides of the lawn or in places where screens are needed. Put as little land as possible into walks and drives, as these have a tendency to break up the lawn and make it appear small. They are also expensive to make and to maintain.

GARDENING ON WALLS AND ROCKS.—There are hundreds of mountain and rock plants which thrive better on an old wall, ruin, a sleeping bank of stone, or even on a dry wall than they do in a carefully prepared border. Some Alpine plants which die in a place in the garden thrive on old walls and ruins. Such places give a home for many rock plants which no specially prepared situation can equal. Even on the top of good, well-preserved walls, where other conditions are favourable, very beautiful effects can be worked out. Over the arches of garden entrances a small bit of wall gardening may be tried. Of course opportunities for this may be few, but where there is any rock or wall surface available the scattering of a few seeds of arabis, aubretia, erinus, saxifraga and stonecrop would give rise to a garden of rock blossoms that would need very little care hereafter. In forming rough walls to support banks many rock plants will grow well thereon, and in addition to the above may also be added *Alyssum saxatile*, *arenaria*, mountain campanulas, *gypsophila iberis*, *dianthus*, *achillea*, *antirrhinum*, *lychnis* and *veronica* (rock and mountain kinds).

INSECT PESTS.—By no means the least of the difficulties the gardener has to contend with is that of dealing with the different kinds of insects that feed on his plants. To keep a garden free from insect pests is never an easy task, but much may be done by a little well-directed effort to keep them in check. Prevention is, of course, better than cure, and a great deal may be done in this way by paying strict attention to watering, syringing, and ventilating, as well as to proper re-potting and planting. A weedy, uncared-for corner in a garden, or a crowded, untidy plant house, is a regular nursery for all sorts of insects. Rubbish and the remains of crops should never be allowed to lie about, as they form a welcome shelter to many kinds of pests; also, all plants or parts of plants that have been attacked by insects or fungus diseases should at once be burned. Some plants suffer most from the attacks of insects when they are quite young. In such cases the plants should be pushed into vigorous growth as quickly as possible by suitable cultivation. As soon as the attack is observed steps should at once be taken to check it, and remedial measures will be applied in a more intelligent way if the cultivator has a knowledge of the habits of the species he is dealing with. Insecticides act upon the pests in different ways; some smother the insects, some have an injurious effect upon their skins, while some cause death by poisoning their food. The first mentioned should be used in the case of insects which feed by suction, the others when the insects have biting mouths. As a rule, insecticides have no effect on the eggs of insects, so that it is always best in the case of those that increase rapidly to repeat the application of the insecticide in the course of a few days, and perhaps even a third time, so as to make sure that the pest has been exterminated.

THE LAWN MOWER.—Next to digging perhaps the most laborious work the gardener meets with is that of shaving the lawn or grass plot. A well-kept, evenly cut lawn is certainly a thing of beauty, and no effort should be spared to keep it so. This cannot be done with a blunt, ill-set lawn mower. To save expense, the duty of overhauling the lawn mower is often given over to the Jack-of-all-Trades labourer, who is very fond of showing his mechanical skill by unscrewing and taking asunder all the vital parts of the machine. Unfortunate results often follow his putting it together again, as the true setting of a lawn mower is a very intricate business indeed. It is good economy to send the machine to a reliable firm who make a speciality of this work, and no time should be lost in having it seen to at once. Ere this month is out the mower will be wanted, and good work can only be expected from the workman who is provided with efficient tools.

SEED RAISING.—A beginning in real earnest must now be made with seed-sowing necessary for the summer display of bedding. Half-hardy annuals should be sown in heated frames or in pots or boxes, and placed in a warm house. An easy method of raising these seeds is to make up a hot-bed consisting of two-thirds of leaves to one of fresh stable dung which will give a temperature sufficient for starting such seeds as asters, petunias, marigolds, and all annuals of this class. Lay four inches of soil on top of the manure, and sow in very shallow drills two inches between the lines. Be very sparing with water till the seedlings are in the rough leaf, when they will be ready to transplant into boxes or a cool frame to be grown on and hardened off for their summer quarters.

SPRING PROPAGATION.—Deficiency of stock has frequently to be remedied by spring propagation. This can best be carried out with success where there is a command of artificial heat all through the spring; otherwise the hot-bed must be utilised, and if intended principally for striking cuttings, use more stable litter and less leaves in the fermenting material, though where plenty of leaves are used the heat lasts longer, but it is at no time so strong as when stable manure enters largely into the making of hot-beds. The principal evils to be avoided in spring striking are a damp, stagnant atmosphere and keeping the cuttings too damp on the one hand and on the other allowing them at any time to become so dry as to cause them to droop and shrivel.

MONTEBRETIAS.—This charming class of hardy plant deserves a place in every garden. No special preparation is required for their culture, as they grow and flower beautifully in any good garden soil. Frequently one sees in gardens large clumps that have not been divided up for years, producing plenty of foliage but very little bloom. Lift these without further delay, and select the strongest roots, planting them singly six inches apart, either in beds or in lines. If the latter, let the lines be fifteen inches apart. A gay border of montbretias can be obtained by planting a selection of different colours, and these have been much improved of late years, and for cutting few things last longer fresh in rooms. Some growers replant their montbretias every year. It entails much work, and in cold, late localities is not desirable. Every second or third year is quite often enough. A

good selection may be made from the following list: *Crocsmiaeflora*, orange scarlet, one of the best; *California*, superb, pure yellow; *Drap d'Or*, chrome yellow; *Distinction*, scarlet and yellow; *Gerbe d'Or*, splendid large golden yellow; *Incandescence*, orange scarlet; *Germania*, bright red; *Tragedy*, deep orange; *Oriflamme*, orange scarlet.

HOELING.—The hoe is the implement which should be most frequently in the gardener's hand, for the surface of the soil scarcely can be too frequently stirred. All flower beds and borders will now be much benefited by this operation. Some cultivators are fond of following the hoe with a rake to smooth down the surface again. This I consider bad practice, as the next shower of rain makes a cake on the surface of the ground which entails the use of the hoe again to break it. Aeration of the soil can only be obtained when loose and free for the penetration of the sun's rays.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

THE weather conditions practically all through the winter months have been very favourable for the carrying out of the various operations recommended in previous calendars. The rainfall has been very light and frosts almost nil, the thermometer seldom falling below freezing point. So we assume that all work, such as pruning, nailing up, and forking of ground around fruit trees and bushes, has been completed, the prunings burned and returned to the soil in the form of ashes. These operations, being completed the grounds should present that cleanly and well-cared for appearance that is characteristic of the progressive man. We may now turn our attention to other work that must have our attention this month.

As most growers have either farms or gardens to look after it is evident that preparation of ground and seed sowing, &c., in these quarters must also have our daily attention. This is why the above noted work should be got through in the slack months during every favourable spell of weather. Otherwise they are very likely to be got through now as quickly as possible, if not entirely neglected, and work quickly done, or done in a great hurry, is never well done. The advice offered by the writer in last issue (p. 24) *re* "New Ideas in Planting," recommending growers to experiment for themselves in this way by planting a few trees, has been most timely, and we trust ere now a good many trees have been so planted throughout the country. (A few have been planted in this neighbourhood.)

*Owing to an error, the portrait given last month as that of Mr. Spencer was really a duplicate portrait of Mr. Cumming taken some years ago.



WILLIAM R. SPENCER.*

So much has been claimed for this method of planting, the experiments have been carried on over such a lengthened period and the results always favourable, that we cannot lightly pass it over, although it has been received by many with incredulity. They cannot conceive it possible for trees planted in this way to do better than if planted in the old style. In reply to such sceptics I can only endorse the advice already offered by the writer of the article. Let all growers plant a few in this way for themselves and test its merits, if merit it possesses, before we pass our final judgment upon it. If it eventually proves as advantageous in general practice as it has already done in the trials carried out in England it must prove of immense advantage to the country on the whole, as any other system must which can at the same time give a more vigorous growth to the trees and improve as well as increase the crop of fruit.

STRAWBERRIES.—The month of August or early in September is the best time of the year for making new plantations of these, as if good plants are put in then and carefully attended to in the matter of hoeing and watering a very fair crop of the very finest fruits may be expected the succeeding season. Unfortunately it often happens that they cannot be got in then owing to the quarters being occupied by some other crop. Plants are then put out in October. Where this has been so, the plants should be examined after frosty spells of weather, and any which may have got loosened be made firm and the ground hoed if the soil be dry. From these plants fruit cannot be expected this year, and all flower trusses as they appear must be nipped off, so that all the growth possible may be got into the plants, and so build up its fine crowns as possible for the next year. If they have not been put out in October this may be done at once. Plant in rows two feet apart and eighteen inches from plant to plant in the rows. Water if at all dry. The directions given above for October planting applies to these. If new plantings of these are intended to be made next August I would strongly advise the preparation of the ground now, and planting an early maturing crop such as lettuce, spinach or early potatoes. These will allow the ground to be cleared in good time for planting, and all that will require to be done then would be to lightly fork over and level the ground. The ground by then would have had time to settle down and be in splendid condition for the successful culture of this most important crop. Proper cultivation of the ground consists in digging as deeply as the nature of the soil will allow, two feet deep if possible, and breaking up of sub-soil with a fork, and at the same time giving a very generous quantity of the best farmyard manure. Ground so prepared will produce very heavy crops for three or four years, after which they should be thrown away; in the meantime another plantation should be ready to take its place. Many growers allow plants to occupy the ground for a much longer period. I do not consider it profitable to do so, as berries deteriorate, at least in size, and are later in ripening than from younger plants. The plantations made in late autumn or at the present time may for this year have an onion crop planted between the rows—one line between the rows of young plants and eighteen inches apart in the row; they cast such a light shade that they do little damage in that

way, but they take a considerable amount of nourishment out of the soil, and were it not that the ground would otherwise give no return this year I would not advocate its adoption at all. As already noted, August is the proper time to plant. There is then a fair return the first year. The plants can then be properly attended to and the fruit plots kept to themselves.

RASPBERRIES. The canes may now be shortened and, if not already done so, tied up to whatever is provided for their support. In shortening the canes we must be guided by their strength. Twelve inches is about the proper length to take off each. We must assume that old fruiting canes were cut away after fruiting, also the superfluous canes removed. Have all tied up now. There are many methods adopted for the support of these. Perhaps the most general is single posts at about four feet apart, to which four or five canes are tied. Planted in this way work between them is easily carried out. The canes and fruit receive the greatest possible amount of sun and air, two most important factors in their culture. The only drawback to this system is the expense of stakes, as they require renewing every few years. Newly planted canes must now be cut down to within fifteen inches of the ground to cause a supply of young canes to spring up at once to fruit next year. Amongst established plants very little cultivation is required, the roots being close to the surface. A spade must not be employed in doing this. The surface may be stirred with a fork and the hoe occasionally employed to keep down weeds. They are gross feeders, and mulchings of well-rotted manure should be annually given them. During the summer applications of liquid manure may be given; this is necessary for the building up of fine stout canes, without which the crop will suffer both in quantity and quality.

PEACHES.—These on open wall must be attended to at once, as the buds will be by now pushing fast. It is usual to have these unfastened and allowed to hang away from the walls during winter to retard growth as much as possible. They must now be laid in, as damage would be done them by leaving the buds knocked off if deferred longer. In doing so lay in shoots about four to six inches apart, remove very weak growths and shorten strong ones slightly, cutting to a wood bud, which are easily distinguished from fruit buds by their much slimmer proportions, wood buds being long and pointed, whereas fruit buds are short and rounded. In nailing these be careful to allow room for future development of the shoot. The shred should be large enough to take a shoot twice the size of the one being tied. If the tie is too tight the free flow of sap is retarded, an abnormal thickening of the shoot takes place at that point, and gumming ensues.

THE LOGAN BERRY.—This comparatively new fruit from America, the result of a cross between a raspberry and a blackberry, is rapidly gaining favour, and rightly so. It is delicious in tarts, bottles well, makes excellent jelly, and is esteemed by some for dessert. Its culture is very simple, and may be treated in exactly the same way as advised for raspberries. It has long, rambling growths, often fifteen feet long, so that a trellis, fence or poles are necessary for their support. They may now be shortened and secured to supports, and the ground pointed over and mulched, if not already done.

GRAFTING.— This work may be commenced towards the end of the month. Pears should be first taken in hand, as growth in these is much earlier than apples, which may be safely allowed to remain till April, for which month more particular directions will be given for the successful carrying out of this very important work.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

So much must be thought of and done during this month in the kitchen garden that "March may weathers" might also be to the gardener "March many jobs." Garden workers under a "head" will be often enough reminded to "look alive," but those working their own gardens may be generally recommended to gird up their loins a bit that is to say, they may with advantage draw the belt one hole tighter, and get to work on every available occasion as weather and soil condition suit. So many things demand present attention that it would almost require an alphabetical list to outline the work.



JAMES BRACKEN.

In the same situation sow also early Milan turnip, lettuce, leeks, round spinach and radish. These sowings may be repeated in open quarters towards the end of the month, putting in Early Snowball turnip at that time. About the middle of the month, in a warm situation, first sowings of autumn broccoli (Veitch's Self-protecting or Grange's), early cabbage (Improved Nonpareil), Brussels sprouts, Autumn Giant cauliflower and Drum-head savoy may also be got in. The soil for these should have been manured and rough-dug from late autumn. Before sowing reduce it to a very fine state. Sow the seeds thinly in beds four feet wide, and lightly cover with shovel from alleys a foot wide, or in shallow drills about six inches wide with about eighteen inches between. This last method is handy for small sowings, as first sowings should be, and the plants are less likely to become overcrowded. Where finches and sparrows are troublesome a covering of herring netting securely laid on, and supported in the centre with forked sticks, is necessary, as otherwise time and labour and seed may be wasted. A mixture of soot and lime must be used from time to time to safeguard from slugs, and also be in readiness to ward off "turnip fly," to which early sowings of the Brassica tribe are so subject. A sowing of parsley may also be sown.

PEAS.—Successional sowings of these should be put in every fortnight; Telephone, Duke of Albany and Alderman are robust kinds suitable for the time. Sow about two and a half or three inches deep in drills

about eight inches wide, in land that has been for some time manured and trenched. Earlier sowings, as they advance, must be cultivated by forking the soil on either side into a fine state. This must be done before roots extend, and to permit of staking before tendrils are formed. When possible it is best to sow the lines a good distance apart, as peas growing close in the lines offer difficulties to profitable intercropping. In any case the height of the variety ought to be the least distance between lines.

BROAD BEANS. Sowings of Improved Longpod and Taylor's Broad Windsor should be continued every fortnight or three weeks as there is likely to be a demand. The bean is most profitable grown in an open aspect in strong clay soil that has been well manured and tilled over winter. Sow zig-zag lines, each bean about four or five inches apart, with two and a half or three feet between. Where space is limited they can be grown in single lines two feet apart. Green Windsor is of superior flavour to the light-coloured varieties, as are the other green seeded kinds, but they scarcely yield so heavily. Beans would be more popular and more grown in this country if they were not usually left to become so mature before being pulled for cooking. Quite young beans are a delicate and sugary vegetable. Beans and peas may succeed most garden crops if the ground permits of being manured and tilled during winter.

POTATOES. So soon as the state of the soil allows early kinds ought to be planted. Drills twenty-eight inches wide accommodate these, and the sets may be planted from a foot to fifteen inches apart according to variety and size. For a small private supply in old gardens a manuring of leaf-mould mixed with fresh loam or seasoned road-parings, spread liberally in the drills under the sets, will yield samples of good flavour. An application of well-decomposed farmyard manure, supplemented by a complete chemical mixture as the following spread on the dung in the drills gives the heaviest return: 4 parts superphosphate, 1 part sulphate of ammonia, 1 part muriate of potash. About two ounces of this mixture to a yard of drill might be used with safety. In using this combination caution is necessary, as it is powerful and concentrated. Spread it in a fine state regularly over the manure. The character of varieties varies in different districts. Ninety-fold is a heavy cropper, but sometimes of poor quality. Puritan is generally of good or fair quality, but its constitution is weak, and in some seasons it crops poorly. Sutton's May Queen and Duke of York are other good varieties. To succeed these Epicure and British Queen. The most of the main crop varieties will be planted before the month is past, but the want of space in most gardens generally exclude these late kinds.

CAULIFLOWERS in frames, sown early in the year, should be carefully aired and attended to, so that these may be strong and hardy for planting out next month. Autumn sown plants can be planted out as soon as the weather promises to be mild. These succeed best in a warm, sunny border that has been very heavily manured and deeply worked. With these conditions strong, well-hardened plants, lifted carefully with a ball of soil and planted with a trowel two feet apart every way, will produce one of the most delicious and tender of vege-

tables; but indifferent plants treated indifferently only disappoint. Spring planted cauliflowers are subject to the attacks of slugs and the turnip beetle or "fly," especially when the plants are weak and slow to start. Use soot and lime dusted on the plants and about them as a safeguard.

CUCUMBERS.—Cucumbers for a summer supply may be grown in pits or frames with a good hot-bed prepared. In making the hot-bed choose the sunniest site, and use plenty of fermenting material. Build it a foot wider than the frame on three sides and a foot and a half at the back, so that it will retain heat. Make it quite firm, and let it be something higher at the back to catch the sunrays. When the frame is placed in position make a mound of about a bushel of fibrous, mellow loam three parts, one part decomposed manure, and a proportion of lime rubbish mixed in the centre of each light. When the rank steam is dispersed and the temperature within the mound falls below 80°, plant out one young cucumber in each mound, not allowing the plants below the level of the seed-leaves. A good selection of Telegraph is suitable for frame work.

PARSNIPS.—Before sowing, the land for parsnips ought not to be freshly manured in the surface. This causes the roots to divide in all directions attracted by the manure. Ground that has been manured for a crop the previous season, or that has been manured from late autumn and exposed in ridges during winter, will be in suitable tilth for preparing for the seeds, and will grow nice clean roots. People sometimes take extreme measures to grow giant parsnip by opening trenches and placing manure sufficiently deep, or by making holes and using special compost for each root. This involves much labour, and size with coarseness often results. Medium parsnips, clean and fine, are more acceptable at the table. When the soil is deeply dug and reduced to a fine state, draw rats eighteen inches apart and about an inch deep. Early thinning forwards growth, and regular hoeing is essential. For medium table parsnips eight inches between the plants will suffice. Sow Student or Hollow Crown, the difference between which is seldom apparent.

ONIONS.—The main crop of onions ought to be sown on the first suitable chance. In cottage gardens where space is limited growing in beds has advantages. They are convenient for after-tillage, when the help may be encumbered with petticoats and skirts. A bed four feet wide accommodates four lines. Early and partial thinning and light hoeing between the lines, so as not to disturb the roots, must be the order. No weed can be tolerated in an onion bed without harm. Weeds left till strong cannot be removed without disturbing the roots, which checks growth, and the crop suffers sooner from over-shadowing than almost any other. In fact, if weeds get ahead of young onions it is time and space wasted. Onions in cool frames must be aired and pushed along for planting next month.



The first volume of "Beautiful Garden Flowers and How to Grow Them" (T. C. and E. C. Jack), issued in its monthly parts, is now complete, and forms a really handsome book. The coloured plates are most attractive. The second volume begins in Part 9 just received.

Bee-Keeping.

By T. MAGUIRE, The Orchard, Enniskillen.

Extracting—III.

WHEN getting an extractor it is cheaper to get a good one. A geared two-frame extractor will cost more than an ordinary one, but will repay its cost in comfort and efficiency. Two uncapping-knives, the "ripener" already referred to, and sufficient tins to hold the honey should be in readiness. If the extracting can be performed immediately the frames are taken off the hive, and whilst they are still warm, it will be so much more easily done, and the room should be kept at a warm temperature for the same end. Have some hot water at hand in which to keep the knives heated. They must be clean and sharp, and whilst one is in use the other is immersed in hot water. With a little practice it is easy to remove the capping in sheets, almost without touching the honey. Hold the frame over the strainer with the side which is being operated upon inclined downwards; begin at the lower part of the frame, and allow the capping to drop into the strainer. These cappings should, of course, be carefully preserved, to be duly converted into wax, of which more hereafter. First, extract about half the honey from one side of the comb, then reverse the machine to the other side, and finish that side; reverse again, and finish the first side. This method puts least strain on the combs, which, when new, are easily broken. The handle should always be turned gently until a good part of the honey is thrown out, when speed may be put on to finish.

The ripener is provided with a strainer on top, but this is not sufficiently close to leave the honey ready for sale. A very convenient plan is, when a quantity of honey has accumulated in the extractor, to put the latter on a table or bench sufficiently high to allow the strainer to stand underneath the tap. A jelly-bag is then hung on the tap of the extractor, and the honey is allowed to pass through. The tap should be so regulated that the bag will not overflow. When strained, the honey can be put into tins or bottles, and should be kept in a warm place till disposed of. If the honey is very thick and slow to strain, bring the apparatus near the fire, when it will strain more readily.

When the combs have been extracted they can be given back to the bees to be filled again as required. When extracted for the last time they should be placed over a colony with a small hole in the quilt, or with a Federation escape board, having the slot open, underneath, to be cleaned up. When dry they should be stored in a dry place for the winter, secured from moths and mice.

Different grades of honey will be gathered as the various flowers come into bloom. It is sometimes desirable to keep each quality by itself, and, when shallow frames are used, this is easily enough done in a good season. The white clover honey should, if possible, be kept separate at all events, as its light colour and beautiful flavour command the highest price, to say nothing of the prizes at the shows.

[To be continued.]

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Contents

	PAGE		PAGE
The Making of our Home (Illustrated)	49	Culture of Vegetable Marrow . . .	58
Colour and Arrangement in the Flower Garden	50	Potato Experiments in Co. Roscommon	59
The Cultivation of Hardy Annuals . . .	52	The Month's Work (Illustrated)—	
Roses	53	The Fruit Grounds	60
Rock Gardens (Illustrated)	54	The Flower Garden	61
Preservation of Hedgerow Timber and Shelter Belts	56	The Vegetable Garden	63
Current Topics	57	The Herbaceous Border	64
		Beekkeeping	64

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3	<i>Out of Print.</i>	53	The Construction of a Cowhouse
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock Spraying	56	Cultivation of the Root Crop.
7	Fluke in Sheep.	57	Fruit Packing.
8	Timothy Meadows.	58	Sprouting Seed Potatoes.
9	The Turnip Fly.	59	Seed Testing Station for Ireland.
10	Wireworms.	60	The Packing of Butter.
11	Prevention of White Scour in Calves.	61	<i>Out of Print.</i>
12	<i>Out of Print.</i>	62	Plans for Creamery Buildings.
13	Contagious Abortion in Cattle.	63	"Redwater" or "Blood Murrain" in Cattle.
14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act, 1906, Regulations.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
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32	Rearing and Fattening of Turkeys.	82	Cultivation of Main Crop Potatoes.
33	Profitable Breeds of Poultry.	83	Cultivation of Osiers.
34	The Revival of Tillage.	84	Ensilage.
35	The Liming of Land.	85	Some Injurious Orchard Insects.
36	Field Experiments—Barley.	86	Dirty Milk.
37	" " " Meadow Hay.	87	Barley Threshing.
38	" " " Potatoes.	88	The Home Bottling of Fruit.
39	" " " Mangolds.	89	The Construction of Piggeries.
40	" " " Oats.	90	The Advantages of Early Ploughing.
41	" " " Turnips.	91	Black Scab in Potatoes.
42	Permanent Pasture Grasses.	92	Home Preservation of Eggs.
43	The Rearing and Management of Chickens.	93	Marketing of Wild Fruits.
44	"Husk" or "Hoose" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
46	Haymaking.		
47	The Black Currant Mite		
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49	Poultry Fattening.		
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ARBORICULTURE IN IRELAND

APRIL
1894

The Making of our Home.

(Fourth Article.)

By CHARLOTTE G. O'BRIEN.

WE have in our early days many of us heard of the tragic fate of the fisherman (and his wife) who first asked for a little rise from starvation, and who, after many askings when Emperor, went again to salute the Djinn of the Sea

"My wife Isabil will have her own will,
And hath sent me to beg a boon of thee!"

demanding to be Pope, and thereon returning to their primitive starvation. Now, I have to be my own "Wife Isabil," and actually find myself very much inclined to follow suit to her. I have the glorious river with its rushing waters from all west Ireland; I have the sweeping tides boiling up from the Atlantic at spring-tide, or mirroring the clouds and the stars when the passion of their movement is for a moment allayed; I have golden furze shining like the helmet of Goliath on the hill-tops; I have the delicate ferns and mosses of Erin, the primroses and wood anemones and heather besung of poets, the hazel catkins and the golden goslings, the larch tufts, and the veils of tender green beech leaves. What have I not? Ha! ha! There is always a "Wife Isabil" in the corner of the mind who is quite ready to do a bit of grumbling before she is asked, and she says, you have no wall! "And just think what you could do if you had a fine kitchen garden wall; yes, and just turn your mind to all the innumerable miles of unused walls, demesne walls, garden walls, labourers' cottage walls, walls old and new, derelict or shining with wet plaster all over this whole country of Ireland, and going to waste, and you trying to grow roses and clematis, figs and peaches, apples and plums, myrtles and what not on the few yards the house affords as wall shelter. Oh, it

is pitiful!" Poor me—and I feel very sorry for myself when she talks that way, and represents that not only I have no wall but that I should destroy the picturesque beauty of the place if I attempted to build one. Here I lie down on the sofa, take up Robinson's *Flower Garden* or *IRISH GARDENING*, and straightway begin to plant and scheme. Trinity College Gardens or Glasnevin do not count, and Kew is not in it when you come to look at my visionary walls. A noble sight they are; you may walk by them and gather dozens of the bloomiest peaches, and no wasps will sting you. But too long I have left the actual, and now let us return to our muttons.

I approach roses with a sense of awe, equal not to their beauty but to my own ignorance. It is not to say that I am no expert in roses, but that I am grossly, palpably, unbelievably ignorant. I do not know the difference between a "Tea" and an H. T. or an H. P. or any other mysterious letters. I should be shamed before the veriest non-gardener at any exhibition if I were asked to sort or name the kinds even in the rough. I can neither graft, nor bud, nor prune, nevertheless I am getting into roses; but I must begin from the beginning and explain how it happens I am so ignorant. Well, when I laid down the east garden (my first) I said I would have roses; but chips of rock were not suitable, so I made a big bed three feet deep, well manured, &c., and planted. But, no! except the regular sweet old staggers that bloom for a month in June, the roses refused to grow. I tried them here, I tried them there always the same story—the bought-grafted roses failed. I gave it up; all the more because I had on the house one so glorious that I hardly needed more—a climbing *Devoniensis*. This rose, up the front

of the house, carries its hundred blooms at once in spring, and seventy or so in autumn, besides odd flowers all the year round. There are two in bloom now (February and March). A friend who had been reared in Guernsey said to me she never saw finer there. It is a great puzzle to me why people fail to flower this rose. Every cutting I stick in flowers as freely as the parent. I cannot help thinking that people prune it, and prune off their blooms. I never prune it. It drives up great shoots often ten feet long. These fan out into a wonderful hand, each finger bearing a lot of blooms, the whole group generally between twenty and thirty. When these roses are over and cut away the main shoot throws side-buds, and these flower between spring and autumn. It would not do to allow these long shoots to run away altogether, as that would leave the lower part bare, so I tie a string to the top, and haul down the ends as low as I can without breaking, and tie them in. They then begin to throw strong shoots again, so that really what wood has ever been made by the tree is there still, arching in and out, fighting its way among stronger plants; but I have to help it against the jessamine, which would kill anything.

(To be continued.)

Colour and Arrangement in the Flower Garden.

By L. B. M.



PRESENT, when so much time is devoted to the raising and perfecting beautiful flowers of every form and colour, it is to be regretted that the arranging and setting of these gems of the garden receive but scant attention in many quarters. Often the effect is entirely lost when a too lavish and glaring display of colour is made without any regard to surroundings or modifications, such as adjacent shrubs or shrubbery or other outstanding features, to redeem the monotony. The judicious use also of foliage plants in beds and borders, and as edgings to the same, produces an effect that can never be gained by ever so brilliant a display of flowers with their own foliage alone. But some one may say—"You cannot improve on nature." That is so; but who ever thinks of leaving such flowers as begonias, geraniums, &c., to nature? They are forced and hybridized out of their natural form and out of their natural surroundings. When you thus force nature she then demands some attention from you. But if you will, then, let us look at nature. The primroses in the woods are well nigh

smothered in a nest of green; the violets peep here and there from the grassy bank; the flame of the poppies is mellowed by the waving corn; the bluebells spread their soft blue carpet in the dim light under the trees; and so we might go on with instance after instance of nature's harmony.

Have you ever seen the lovely Alpines in their native haunts? If not, I will tell you how they grow. Here is a clump of columbine in a nook near the rock, under the shadow of the pines, and hard by we find a plant of cyclamen with its few flowers and many spotted and marbled leaves; there is a wealth of ferns about and other greenery. Scabiouses, too, raise their soft blue heads above the rest, while out in the open the sward is softly scattered over with autumn crocuses, much interspersed with green. The Alpine roses, which resemble miniature rhododendrons, are just over, and very lovely they looked a few weeks earlier with their waxy-pink blossoms and dark-green leaves, the shrubs growing in groups or isolated specimens on the mountain side. Rarely indeed does nature produce a crude blaze of colour if left alone. And side by side one often sees colours that, apart, may each have their own beauty, but planted together offend all ideas of taste or harmony. In the lawn in front of a nobleman's residence I have seen beds of brilliant scarlet geraniums side by side with beds of the same flower of magenta hue. I said to the head gardener—"Do you care for the scarlet and magenta so near to each other?" "Oh," said he, "we must have a variety." My courage failed me at this point, and I said no more. And in the same grounds, relegated to an inconspicuous place, was a lovely bed of scarlet begonias, its nearest neighbour being one filled with well grown, white antirrhinums, quite close to both a fine group of *Lilium candidum* flanked by some green shrubs; truly a lovely bit of planting, and worthy of a more prominent position.

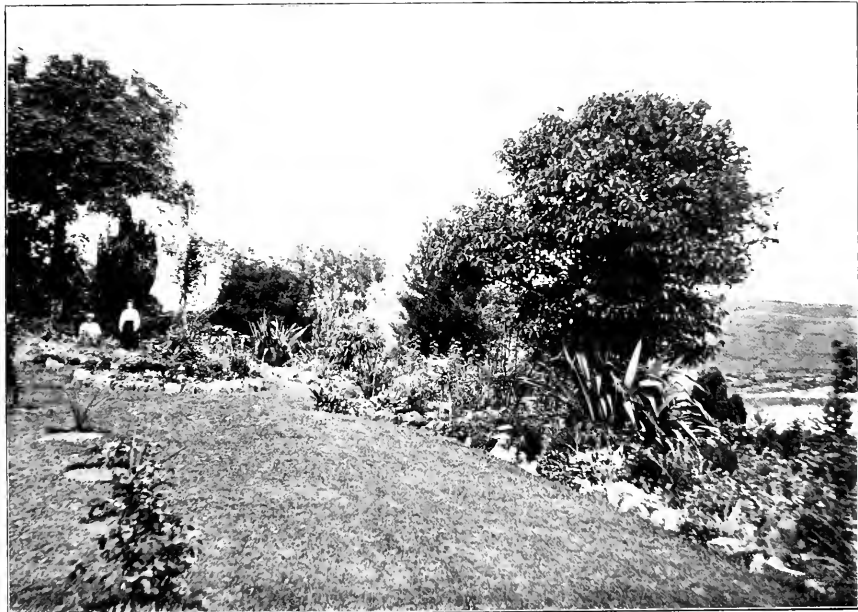
The setting of green lawn is not, in all cases, enough to bring out the true value of brilliant bedding plants, it is too flat and bare. Take, for instance, a bed of yellow calceolarias, with blue lobelia as an outer edging—a very ordinary combination and a good one as far as it goes. Outside this try the effect of a row of *Echeveria secunda*, with its perfect rosettes of grey-green, glaucous leaves and inconspicuous sprays of orange-scarlet flowers. The sloping edge of the bed affords these the dry position they require. They also continue to bloom and retain their neat, compact appearance until autumn is well advanced and the early frosts warn us that it is time to transfer them to their winter quarters in the cold frame. Another effective and very hardy edging plant is the silvery-leaved *Cerastium tomentosum*. Once planted it requires little attention beyond trimming the edges occasionally to keep it in bounds. A bed of bronze-leaved scarlet geraniums will look all the better for such a setting to bring out the dark tints of flower and leaf.

For a bed of purple flowers—*Salvia Bluebeard* or violas—a yellow edging makes a good foil. *Pyrethrum aureum* is good in this combination. Plant on the extreme outer edge a single row of the pyrethrum, then carry it inwards in a series of points like the points of a star, only wider; the flowering plants will thus have similar points carried into the border. The habit of

growth of a plant will often determine the order of its planting—thus the pyrethrum lends itself to irregular planting.

The sedums are perhaps the most useful of this class of plant; many are beautiful, but those of crude green should be avoided as edgings to flower beds in grass, a grey or brown-leaved sedum being much more effective; and in winter especially, when the beds are devoid of colour or empty altogether, one looks with a pleased eye on these little friends that are never without some beauty at all times, some even turning into

The small variegated grass is beautiful in clumps among the scarlet begonias or the lovely Gloire de Lorraine. Even small plants of the shrubby veronicas do not look amiss, or various ornamental grasses, or ferns that stand the sunlight. Some flowers require this toning down, others do not, but many combinations will suggest themselves to the enthusiastic gardener who has an eye for colour and effect. While keeping this in mind care must be taken to avoid anything like a patchy effect or the crowding of too many arrangements into a comparatively small space. Two large beds, for instance,



THE MAKING OF OUR HOME—THE EAST GARDEN FROM SOUTH.

tints of crimson in the darkest months of the year. The variegated arabis is well known as a pretty bordering. *Saxifraga Kocheliana* is a perfect gem, having dwarf rosettes, the green leaves of which are margined with white, making it one of the choicest of edging plants; it also stands the winter well. Indeed, most of the above named have been selected with that end in view. The aubretias, too, are pretty and easily grown, but the colour of their flowers must be borne in mind when selecting them as edgings. Some of the finer sedums may be used as an inner border in conjunction with, say, echeverias; this is by no means so formal as one might think; it is merely as a frame or setting for a picture.

Foliage plants of taller growth will mix well with the gay flowers in the beds themselves, and produce delightful harmonies instead of only a blot of intense colour.

exactly similar will look well at some distance apart with others of a different scheme near to them. The arrangement must depend on the shape and size of your garden or lawn and its environments. A belt of shrubbery as a back ground, or groups of shrubs in telling positions, will do much to enhance the beauty of your flowers.

It is a mistake to try to copy your neighbours' gardens; think your own thoughts, follow out your own plans and ideas, study nature at first hand and she will surely reveal many of her secrets to you. Last year's mistakes may be the secret of this year's success, and the dream garden you have in your mind will slowly evolve itself from a dream into an interesting and beautiful reality.

With the Editor's permission I shall in a future article speak of that most interesting phase of gardening, the herbaceous border.

The Cultivation of Hardy Annuals.

By JOHN H. CUMMING.

GARDENERS of the present day, amateur or otherwise, are now fully awake to the amount of pleasure and interest which this class of plant will commend if properly treated. In many gardens, where the labour is scarce and the requirements many, much time cannot be devoted to the needs of all flower subjects, and with this fact in mind I may confidently assume that no class of plants will repay the small amount of labour expended on them by growers, as a well selected collection of hardy annuals. Their attraction also is enhanced by their adaptability to surroundings not always congenial to the best and full development of their beauty. The beds or borders for the reception of flower seeds should in mild weather, during winter, be deeply dug and a moderate amount of well-decayed farmyard manure dug in. Too liberal manuring is apt to encourage rank growth in the foliage, to the loss of a free flowering habit.

At the beginning of April fork over the soil, and make it neat and level with a rake. If of a gravelly nature a light treading with the feet, preparatory to the final raking, will help to consolidate the soil, and thus prevent too rapid evaporation during the early stages of the plants' growth.

If borders are to be sown with annuals, draw lines fifteen inches apart and one inch deep, choosing the tallest growing sorts for the back and the dwarfest for the front, also endeavouring to mix the colours to contrast or harmonise one with the other. Where beds are the objects to be filled one distinct colour in each bed should be sown; the height will therefore be uniform, and a mass of colour is more effective than a mixture, which is seldom so attractive.

Choose a dry, calm day when the soil is in good working order, and sow the seed thinly, covering the drills in with the rake; then use the same tool to give a finishing touch, leaving the border with a neat and tidy appearance. With flower beds sow the seed broadcast evenly over the surface, then a light coating of soil which has passed through a half-inch riddle should be spread over each bed. Rake over to make all level, as in the case of the borders, and this stage of the work will be complete.

Where a continuance of flower till late autumn is desired frequent sowings must be made to keep up a succession. Many beautiful annuals only last a few weeks in perfection, and where these are required for a length of time, sowings at intervals of three weeks, beginning in April till the end of June, should be made.

When the seedlings are grown large enough to handle they should be thinned to a certain distance apart, usually a few inches. This gives the young plants air and freedom to develop a sturdy growth. Failing to thin the plants when young is too often met with, and poor results accrue from this neglect. Weeding, staking and watering during dry weather are all needful to obtain first class flowers, and during the flowering season the removal of seed vessels and withered blooms

is also important to prolong the display. In this paper I shall confine myself principally to a few kinds that continue long in flower and have proved of much use for garden and house decoration. No other annual has advanced so rapidly in popular estimation as the sweet pea. Full details for their cultivation are given in last month's issue of IRISH GARDENING, and growers could not do better than follow that advice.

The tendency of late years among flower lovers has been for a return to the more graceful and natural simplicity of single flowers.

For decorative purposes in a cut state, annual chrysanthemums fulfil this object in a striking degree. They are alike useful for cutting, and make an excellent back row line in a ribbon border where plants are desired about two feet high. They have the additional recommendation of lasting long into the autumn, and will stand a few degrees of frost.

Clarkia pulcherrima, red and white, and *Collinsia bicolor*, purple and white, are both of easy culture, growing a foot to eighteen inches high. They last long in flower, and are popular for competition. *Eschscholtzia californica* is another very fine annual—its rich, yellow flowers being so gay and showy in sunshine. It should be grown in rather poor soil, when it will bloom all the freer. Among tall annuals cornflowers (*cyanus*) deserve a place. They grow about two feet high, and are best in a bed. The blue variety is bright and pretty, and lasts a long time cut. Arranged with ornamental grasses they suit admirably for dinner-table decoration, and are alike useful for working out letters on wreaths and crosses.

Godetias make a bright display and take a high place as cut flowers. The range of colour is from pure white to dark crimson, and for lines or beds godetias are alike suitable, the compact habit of growth always maintaining a neat appearance.

Larkspur will prove a valuable and attractive hardy annual. Growing a foot high, a line may be sown near the front of a border. Thin out to six inches apart between the plants, when their full beauty will be developed and seen to advantage. The foliage is dark green and beautifully lacinated, the habit of growth and shape of flowers being altogether of a distinctive character.

Competitors always find *Linaria reticulata* a useful variety for competition. The flower spikes are a foot high, and rise well above the foliage. It continues to bloom well into the autumn, and is a well-known favourite with amateurs.

Linum grandiflorum should be in every collection. For massing in beds it is bright and pretty, the brilliant crimson flowers being very telling. The quaint and beautiful Love-lies-Bleeding is an old-fashioned flower that never fails to attract attention. It is a fine late autumn bloomer, and will stand a degree or two of frost. For cutting purposes it is invaluable where large vases require to be kept filled. For mixed planting in front of shrubberies or the herbaceous border, a few plants of the different coloured lupins will be found effective. They grow two feet high, revel in rich soil, and are not impatient of a shady situation.

Nemophilla is a splendid showy annual for beds or edgings, growing six inches high. The blue variety

Insignis is very distinct and free-flowering. Where spring-bedding is practised, a few beds of nemophilla should be sown early in September. The following April it will begin to bloom, and continue to do so till the spring sowing is in flower.

For its exquisite perfume, profusely exhaled in the evening, *Mathiola biceornis* should be grown in every garden. During bright weather it shuts its blossoms, opening them in the evening, so that a shady corner suits it best.

Mignonette is a universal favourite, and grown almost everywhere. No one would like to forego its fragrant perfume, and of late years several beautiful varieties have been introduced. To obtain large, handsome spikes, thin out the seedlings to four inches apart, and the position can either be in a bed, small clumps, or front line of a border. When seed vessels form they should be picked off to prolong the vigour of the plants.

Among old-fashioned flowers, *Nigella hispanica* (Love-in-a-Mist) is very curious. A bed of it looks best, and the light blue flowers last well, and look pretty in small vases.

Poppies have a distinctive character in habit of growth and an endless variety of colour. Being easily cultivated, they may be sown any time during the spring and summer months. The Shirley poppy is most useful for mixed borders or beds, and nothing looks so dainty and light on the dinner table as tall glasses filled with Shirley poppies and grasses.

For edgings of borders or small beds in the spring garden, *Saponaria calabrica* and *Silene compacta* are capital additions. Pink and red are somewhat scarce colours among hardy spring flowers, and these two varieties of plants are valuable as such. The seeds should be sown on a shady border at the end of July, and the plants shifted in September to where they are to bloom the following spring.

Nasturtiums are among our most popular bedding plants. They are easily cultivated, and are admirably adapted for poor soils or dry situations, standing any amount of heat and drought.

The different coloured varieties sown in lines quickly produce an abundance of bloom, and continue to flower freely till cut down by frost. No manure should be given to the soil, as the chief difficulty is to keep the foliage from growing too gross and hiding the flowers.

Viscaria cardinalis is undoubtedly one of the finest hardy annuals for beds or mixed borders. The colour is bright magenta, and blooms with continuous profusion throughout the whole season.

Helianthus (sunflower) occupy no mean position in our grade of appreciation for hardy annual border plants. The majestic growths, bold outline, and massive flowers of the large growing varieties render them admirably adapted for intermingling in shrubby borders or groups for distant effect. In a wide ribbon border a back row of dwarf helianthus looks well, the single sorts being preferable, while for cutting for the filling of large vases it will be found a decided acquisition. They may be sown either where they are to bloom or on a border at the end of April, and removed to their flowering positions in June.

Space forbids giving extended cultural details in this notice other than a short synopsis of the general require-

ments of the family. Exceedingly interesting and easy of cultivation, this fact should commend them to the attention of all lovers of a garden. The cheapness of a collection of hardy annual seeds places their cultivation within the reach of all, while the varieties to select from gives a flowering period over a considerable portion of the year. Thus it will be seen that the most critical eye and fastidious taste are satisfied in growing this charming class of plants, which are increasing in popularity owing to their unrivalled brilliancy and diversity of colouring when placed in positions suitable to their habits.

Roses.

By O'DONEL BROWNE, M.D.

I HAVE often wondered how many people there are in Ireland who really grow roses, and who try to do their best to have the best roses that can be grown; and the more I try to count the more the truth comes home to me that there are precious few. With this person the complaint is, our "locality is not good," and with that one the complaint is, "our promise was good, but something came and caused a check." Now, whereas there may be some excuse for the one, there is no reason why number two should not have saved this check, provided that the cause was not frost. During the growing period—aye, all the year through—one can always be caught napping by the numerous pests that infest nearly all our gardens unless we are constantly on our guard. I have often noticed that gardens where roses are lightly pruned—I dare not say not pruned at all—are always more affected than those where the pruning was worked properly, and the reason of this is that very few rose-growers are aware of the fact that nearly all our pests have their winter residences somewhere very near our plants, be it wall, soil, or the actual tree itself. How many of my readers have ever gone over a tree, or portion of one, with a strong magnifying glass, and examined closely all the structures? He would indeed be surprised to see things that no naked eye would show, and amongst these minute specks he would see countless hosts of his enemies. And in as much as his plants are lightly or heavily pruned, so his enemies are, *cæteris paribus*, in excess or the reverse. We can do a great deal in combating such pests by a very little expense, and when one is repaid by cleaner, healthier plants in summer, surely the trouble is worth the outlay. Some people will say—"Oh! I never bother about them." Perhaps not, but then they are the very first to grumble. Well, we will let that lot grumble. Now let us turn to those of our readers who are willing to fight. To these I would strongly recommend that lovely little work, "The Enemies of the Rose," as published by the National Rose Society. It is quite a small work, and the price to non-members is quite trifling, and then you will be able to learn your tactics for the coming war quite easily. The probabilities are that you will not find all the contents of this book in your garden. No, I hope not, but you will learn of very many enemies that you knew nothing of before. But what will particularly strike you is that whereas the force is terrible, the

ammunition to annihilate this force is cheap and *effective*. No longer need a person dread and run from greenfly, for instance, as if your tree had smallpox, but you will get confidence in your strength, and in attacking greenfly you will be also led to fight other foes. Most firms now put up lotions and washes, the effect of which is to attack several pests at the same time, so saving you much time and worry. Some people think they can make their own washes, &c., at home cheaper than they can buy them, but in most cases this is a mistake, and, depend on it, if the makers of these washes or sprays are charging more than their real value, rosarians will soon find it out. Through the advertisement portions of IRISH GARDENING you will see numerous lists of syringes, sprayers, and whatnots put up by people who have a name to keep up, and whose articles are genuine. When I first bought a syringe I bought a cheap one, and one which never was satisfactory. Now, I am wiser, and hold that the most costly is the best and cheapest. Syringes, such as the "Abol," with its nozzles both crooked and straight (the crooked one for applying sprays under the foliage), and sprayers, such as the "Four Oaks" knapsack sprayer, for those who have many plants to attend to, are the proper articles, but if you use these articles please follow the seller's directions, and pay due care to these tools, else when next you come to use them you will find that they are out of order, and your enemy flourishes. You may begin looking out for your first and most dreaded enemy during April. This year I intend going for him with "arsenate of lead" made by Swift, and shall try and get at it in my old enemy greenfly at the very first. Strange as it may seem I hardly ever see my dwarf bushes attacked, but on the wall-roses you will find it in abundance, owing, I presume, to less pruning. And then be in good time for mildew; be there strong when its attack begins. A few days start to its spores will not serve you, you must get the first push or you will be shoved. I am quite aware that all this preparation means time, but with any of the sprayers and syringes now sold your work is made easy for you, especially as you have not too many bushes to attend to. Therefore get the little book through some member of the society which I have mentioned above, and, arming yourself with the above weapons, go forth and smite the whole host, and you will perhaps bless me.

A Note on Peas.

To have green peas from June to the end of October you will require to make eight sowings; the first sowing to be made early in January. I find Early Bountiful the best and hardest pea for this sowing. The second sowing, last week in February—the Pilot is the best pea for this sowing. Third sowing, last week in March—Alderman is the best for this sowing. Fourth sowing, second week in April—Alderman for this sowing also. Fifth sowing, last week in April—Boston Unrivalled is the best for this sowing. Sixth sowing, second week in May—Royal Salute is the best for this sowing. Seventh sowing, last week in May—Gladstone is the best for this sowing. Eighth sowing, third week in June—Gladstone is the best late pea. If the above is carried out there will be no break in the supply. It is useless to sow peas late in the year. J. DEVINE, Kiltworth.

Rock Gardens.

By GEORGE S. SATTERLEY, Brennanstown Gardens,
Cabinteely, Co. Dublin.

WHY DO WE MAKE ROCK GARDENS?—They are usually formed with one or more of the following objects—viz., to provide a home for Alpine and similar plants which, if grown in an ordinary mixed border, either would run the risk of being smothered by stronger growers or would not show their true habit. Again, though rocks may not be absolutely essential to their welfare, yet in many cases the gems amongst rock plants are not seen at their best except when under conditions that approach the natural. In some cases rockeries are formed with the intention of screening off some particular view or object. The main reason, as will be seen from the foregoing remarks, is to provide a home suitable for Alpine subjects. This being the case it will be well to pay attention to the conditions under which these thrive in a state of nature. Whether we study our native Alpines or those of other lands, one fact may generally be noticed, which is, that a deep root-run is essential to their welfare. It is most instructive to carefully trace out the ramifications of the root system of a small Alpine plant. In height it may be so low as to be only an inch or so above the ground, yet we may find its roots penetrating to the depth of two or three feet. It will be a delicate operation to avoid breaking the slender roots, which will be found firmly adhering to the rocks in their descent. By this examination of the root system we shall recognise three important principles—first, the necessity of providing a good depth of soil; secondly, the importance of good drainage; and, thirdly, a cool root-run, the two last being provided naturally by the rocky subsoil. As an instance of the benefits arising from a cool root run, a typical instance may be given. Notice a large boulder during hot weather in summer. On every side of it the vegetation is scanty, and has a hard struggle to survive. Not so, however, quite against the boulder itself. Here it will be seen that the growth is more luxuriant and healthier, and we know that the roots of the herbs get moisture and are kept cool by contact with the under-ground parts of the rock. By this means they are kept alive and healthy, while plants all around, without these benefits, are perishing. Yet, how often on constructed rockeries plants are expected to thrive on a few inches of soil, which the summer sun effectually bakes. Can we wonder when the poor plants get burned up? Even the strongest of native herbs would have a hard struggle for existence under these conditions. A little thought, too, will convince us that an annual mulch is an entirely natural process, whether provided by decaying vegetation or by the disintegration of rocks caused by frost and snow.

It is desirable to create a natural and picturesque effect as well as to provide for the well-being of the plants. To assist in gaining this end close attention should be paid to the local strata, not with the intention of trying to reproduce the exact effect, but so as to be able to form a good idea of the possibilities. Many rockeries when constructed bear a resemblance to graveyards, the rocks employed pointing upwards and

nearly all at the same angle. The depth of soil in the pockets in such cases is not studied so long as the rocks present a certain stereotyped appearance. Work of this type is radically wrong, and it cannot be wondered at if such constructions prove to be cemeteries in very truth for all but the strongest subjects.

MAKING OF THE ROCK GARDEN.—The work should be undertaken at some time through the autumn or winter, not only because at this time of the year most of the alterations and improvements in gardens are

a natural outcrop of rock. Where this is the case it would be folly to construct an artificial rock-garden. It is only necessary to clear the face of the rocks from weeds, &c., and to add the requisite soil to have an excellent Alpine garden.

The form may be simply a bed of good soil with rocks embedded through it, and informally edged with stone. More pretentious formations are the barrow-shaped, sunk, or raised rockeries. The barrow-shaped rockery is in the form of a bed or border of any con-



VIEW IN A ROCK GARDEN AT GLENAGEARY, CO. DUBLIN.

carried out, but also because the winter rains will help to settle the soil in readiness for spring planting.

In choosing the SITE the soil is a very important factor. A good, deep, loamy soil will suit the majority of subjects. A rocky subsoil is a distinct advantage. To provide congenial soil for plants requiring a different rooting medium whole spaces could be cleared during construction and provision made for colonies of plants having similar requirements. In other cases pockets may be filled with suitable compost. A depth of at least three feet of soil is recommended. An open situation, away from trees and walls, is desirable, but varied exposures are necessary. Whatever the aspect may be, to a great extent success will be dependent on the structure itself. In some favoured places it may so happen that there is already available

venient length. It is highest in the centre, sloping towards the walk on either side, planning width and height according to individual requirements. The sunk and raised rockeries are more ambitious structures, and are what their names imply. Where grass banks are so plentiful as to present a sameness of appearance, these, or some of them, might be converted into raised rockeries, answering splendidly as such and improving the general appearance of the ground. Generally speaking, on the level ground the rocks will slope away into the soil. A pleasing feature may be created in grass by breaking up with isolated rocks, and planting around these with some such subject as ivy, periwinkle, cotoneaster, or some such subject in a perfectly natural manner.

[To be continued.]

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Preservation of Hedgerow Timber and Shelter Belts.

By A. C. FORBES, Director, Departmental Forestry Station, Avondale.

OF the many results of recent land legislation in Ireland the rapid decrease of a great deal of timber on agricultural land is frequently deplored by those who regard the land of the country as something more than the raw material out of which beef, oats and potatoes are manufactured. Rural economists assert that hedgerow timber is a mistake, that it spoils the crops and hedges beneath and around it, robs the ground of its natural and artificial fertility, harbours birds, and renders hay-making, harvesting and other agricultural operations more difficult. No doubt all these charges are true, and in a country cultivated and tilled from the sea to the mountain top the removal of hedgerow timber would not only be justifiable on economic grounds, but a very necessary step in any process of land improvement. But when the actual and prospective condition of a very large proportion of Irish land is considered, the layman is often inclined to ask how hedgerow trees interfere with the utility of the land to a greater extent than gorse, bracken, brambles, thorns, and various other forms of what may be scientifically termed “matter in the wrong place.” Again, an anxiety for the welfare of hedges may be regarded as superfluous when the “hedges” themselves are little more than broken lines of thorn, hazel and coppice wood, as little able to keep back a cow as a notice board on a post, and brought into that condition through years of neglect and maltreatment. As a matter of fact, hedgerow trees have done, and are still capable of doing, a certain amount of harm, especially when they belong to such species as beech, or possibly ash, near arable land; but, apart from two or three unsuitable species, it cannot be proved that hedgerow trees in moderate numbers, and consisting of such species as English elm, poplar, cherry, Scotch pine, and in some cases oak, ash, larch, or silver fir, do any more damage than that caused by the mismanagement of the land in numerous ways well known to every farmer. More especially does this hold good when the trees are growing on those high, broad banks, with deep ditches on either side, which are so common in many parts of the country, and which cannot be used for any other purpose than tree growing, unless it be the grazing of a goat. The little harm such trees do, however, is

often more than balanced by the effect they produce upon the landscape, and the shade and shelter they afford throughout the year.

Much the same arguments as the above can be used for and against the small shelter belts and clumps which have been planted at various times on or amongst agricultural land in Ireland, although with these many of the objections applying to hedgerow trees do not hold good. It is apparent, however, that both classes of timber are sharing the same fate, and in a few years time entire districts will be as destitute of anything deserving the name of “tree” as many parts of the west of Ireland, where reasons of a different nature may be found for the absence of timber.

The regrettable feature connected with the cutting of a great deal of belt and hedgerow timber, however, is the fact that it is conducted on the most reckless and improvident lines. Landlords complain that the value of timber which exists on farms sold to the tenants under the Land Act is not regarded in fixing the price, as it is not considered safe security for the sums advanced. Public opinion and local feeling are against this timber being cut previous to the transfer of ownership; yet, when the holding is vested in the new owner, no restrictions are placed upon his cutting down every tree in the course of a year or two, although he has paid nothing for the right to do so. The usual method adopted, although exceptions may prove the rule, is that of calling in a local timber merchant, and selling him everything that he will take away at so much a tree—the immature sapling and the picturesque veteran sharing alike the same fate. Whether full value is paid for the timber or not is an open question, but there can be no difference of opinion about the effect this transaction produces upon the holding itself. Ugly stumps are left standing at varying heights above the surface of the ground or along the line of unkempt and useless hedges, in which the gaps caused by trees being cut are frequently filled up with brushwood in the most slovenly manner possible, the owner probably comforting himself with the reflection that it will be a convenient place to get a dry stick for the fire later on. In removing the timber, drains, ditches and banks are broken through, gates and gate posts broken down, and turf ploughed up into deep ruts which form muddy pools in wet and hard-baked ridges in dry weather. The “intensive” cultivation which forms the nominal excuse for such a clearance of timber is usually long in coming, and seldom extends beyond the breaking up of a small grass field, the margins and headlands of which are left untouched to grow a stronger crop of brambles and bracken than before the cutting of the timber.

That the above picture is not exaggerated in any way anyone who goes through many parts of Ireland at the present time can see for himself. Whether it is operating for the good of the country the future alone can tell. But no rational individual can doubt the expediency of devising some means of regulating the felling and destruction of timber which, until the Land Purchase annuities are paid off, is practically public property, and constitutes as great a feature in the country side as its soil, hills and streams, thanks to the labour and enterprise of an earlier generation. Of course the regulation of timber cutting on thousands of small holdings is no light task,

and, in any case, could only be effected along very general lines. But there cannot be any greater difficulty in reserving for the public use belts and clumps which are growing on untenanted land than in reserving gravel pits, quarries, water supplies, or rights of way. A certain amount of difficulty may arise in procuring the timber, but theft and clandestine cutting would be chiefly confined to small trees, and the local police could take charge of such timber without greatly overtaxing their strength.

The general result of such a policy would be that many otherwise treeless districts would possess a certain proportion of timber capable of relieving that terribly monotonous aspect which so many purely agricultural counties are beginning to assume. Well developed trees lend a dignity and character to a country which cannot be acquired by it in any other way, and in districts in which the land cannot be economically given up for woods and plantations, belts and hedgerow trees practically have to supply all that can be provided by ordinary means. One has only to travel in some of the most picturesque counties in the south of England and Ireland to satisfy oneself that fine timber can make, or the absence of it mar, a landscape, and should the present policy continue in force much longer timber trees outside preserved woods and demesnes will soon be a thing of the past.

Early Irises.

Iris reticulata appeals to most plant lovers, probably because not only is it one of the earliest to flower, but it is also one that we can pick and take into our rooms and look at when the weather does not allow us to pay it frequent visits where it is growing. The purple and golden yellow of this flower is a wonderful depth of colour. It is a native of Asia Minor, but it is not particular as to soil or situation. If planted in a sunny border it naturally flowers earlier than if in a shady place, but in either position it seldom disappoints, and any ordinary garden soil will suit it. The leaves are square, narrow, and sharply pointed, and they only attain their full size when the flowers are over. Good bulbs can be had at a very moderate rate from most bulb growers.

Iris rosenbachiana.—This is another very beautiful bulbous iris, not a very common one, but which varies very much when raised from seed. The two flowers at present open in the Botanic Gardens, Glasnevin, are a lovely reddish brown, marked with bright orange. Sir Michael Foster describes a nearly pure yellow variety of this iris with a few purple markings. The plant is a native of Turkestan, and seems perfectly hardy in cultivation. The flowers stand about 6 inches high, and the foliage is very short at time of flowering. *I. rosenbachiana* is figured in Bot. Mag. T. 7135.

R. M. POLLOCK.



It is proposed to hold a flower show in Kingstown during the summer. Promises of support have already been received from prominent residents in the township, and an influential committee is being formed. The show will probably be held in August.

Current Topics.

By E. KNOWLDIN, F.R.H.S., Secretary, Royal Horticultural Society of Ireland.

"WHAT'S in a name?" asked W. S.; or was it my Lord Bacon who begot that Limerick? Anyway, not a few of the older school are wondering what our garden nomenclature is coming to, or wherein lays the sense of changing that which seems well suited both in common sense and sense of long usage. Personally, it is a little humiliating when we send notes across channel to let them know we Irish gardening folk are still gay-an-bawl (hope that'll pass and mention crotons, for instance, to find such ominously followed by codicum in brackets, and a dozen other good old sensible names treated with the same juvenile levity. One, of course, does come across the head gardener able to cope with this latest craze in nomenclature, and then we are like those who "gazed, and still the wonder grew, one little head could carry all he knew." He it is who is so generously verbose as to invariably give the two; but, poor man, he is too often looking for a job.

Here is another phase of this new worry of gardening life. We were admiring a fine specimen bamboo to be told it was *not a* bamboo, but a phyllostachys. Blushing for our ignorance we hastened to another lovely phyllostachys, to be smartly informed that it was an arundinaria by the young head in all the pride and power of his first place, and from henceforth we blush no more, but wickedly glory in the perversity of our nature, which brings the whole jing bang under the head of bamboo bamboos, and Bamboos with a big B.

Vain it is to go into latterday orchid nomenclature. Our high priests of hybridism have somehow managed to catch Dame Nature a-napping, and played the very deuce with her floral aristocrats, breaking down her boundaries. Such cattleya drivings, with other mild diversions, to the end that her high-bred families are in all the hopeless confusion of a bastard breed! True, there is an endeavour to preserve the dual pedigree by grafting the head of the father on to the mother's tail. But these in their turn are being further seduced from such virtuous paths as are left to them, and we shall not be surprised to eventually find the individual specimens of an orchid exhibit simply labelled "seedlings," and dumped down under a dozen numbers by inch measurements of their lips, labellums, or other parts of their anatomy.

Numerical nomenclature, or rather classification, is in a way a new idea. We were advised to get a copy of the new Daffodil Classification list which bears the imprimatur of the Royal Horticultural Society, and got it. On a brief investigation we felt—well, "We do not like thee, Dr. Fell, but why it is we cannot tell; we do not like thee, Dr. Fell." In short, here is a something which seems derogatory to the dignified labours of Barr, Burbidge, and other daffodil devotees, and the more one lingers over it the less one likes it. That feeling, however, has since been endorsed by the opinions of high authorities, and it need not detain here. In the altogether, perhaps, and in the interests of gardening generally concerning this matter—and it does concern it in a very great deal—it would be well if a permanent

committee on nomenclature representing various shades of the most expert opinion was formed to decide what should be altered and what should *not* be altered, what should be done and what should *not* be done, in order to unravel the tangle in which we are fast becoming enmeshed. But beware of the printer! This, by the way. We are aware, poor man, that he has probably more to contend with in gardening copy than in anybody else's copy. But we have been brought to book ourselves about that man of letters. What did you mean in last month's "Current Topics" by calling the Bray phormium *P. horiles*? The query was diplomatically referred to the printer. What we sent him was *P. nobilis*; but, there, that perhaps is the very latest. You never can tell.

There seems to be some little misunderstanding aient cabbage classes at our local and district shows, and as we may take it that a cabbage in that part of our vegetable kingdom takes second rank only to the "noble tuber" it is a matter which should be cleared up. Now, the cabbage which finds favour in the eyes of our expert judges at, say, the shows of the Royal Horticultural Society of Ireland is a modest entity compared with huge-hearted triumphs which make their way to, say, Athlone. The prize cabbage (this advisedly) there may be of that weight and dimension which elicits a cheerful chirrup from the little gentleman who pays the rent (when he is so "disposed") and perhaps powerful enough to bring a broad smile on the long face of the gentle bovine who provides our pasteurised liquid. Heavy weight and noble size tell in that direction of our rural domestic economy, and there are cases, of course, in which half a heart, sufficient to fill the most ponderous of family pots, is appreciated by young Ireland when in *numero familia*. That is all very well if the matter is understood, but being, as we invariably find it, misunderstood, it is unfair to all concerned. Apropos of this, we heard not a hundred miles from the midland metropolis the following colloquy after staging where over thirty entries went in for the cabbage contests alone:—"Who do you think'll get it?" "Well, if size is put first, So-and-So has it; but there, you never can tell what a judge is going for." That is so. If a local judge, which is rarely the case, perhaps, quantity rather than quality, and if—but there, still the irritating uncertainty. Some may think this topic too trifling—to paltry—for parade in the high-class pages of our IRISH GARDENING, or, to quote another limerick, "Much ado about nothing." The ado is admitted, *au reste*, our rural friend has often as much interest and anxiety in his cabbage as the Napoleons of the art of vegetable growing and showing, backed up by the artful aid of black velvet, and sometimes he displays the outward and visible signs of it in a more forceful manner when "going" for that secretary with his protest and a 5s. for its viaticum. More power to you, oh captious cottager, and less laxity from the powers that be!

An Essex friend, writing from the neighbourhood of Mayland, says—"I saw the French Garden, or rather was told it was there, under the snow. What I really saw was a depressing sight (our friend is a pessimist). All work was stopped, and how the "golden soil" will look when it again comes to view is hard to say; but the outlook is serious. Humph! the snow is gone now, and the French Garden is still there—at least we have no evidence

to the contrary—and what a grand idea this is to relieve the overstocked gardening profession; men with a little savings, you know, who have only to pick up the theory and put it in practice right away, it being merely a matter of an enlarged hotheaded business dotted over with cloches, things like bell-glasses with their knobs knocked off. These, we believe, merely require a month's daily handling for practice, then what remains are pretty safe. First you take your acre of land (this for Ireland, over there the regulations are different)—first you take your acre of land (or somebody else's) and just dump down a thousand tons of hot manure, and if you do not keep a horse it is wise to pick your site near a gee-gee garage, because the same quantity, hot and strong, is wanted annually; fit up a water supply, including tanks, pumps, hydrants, and hose; get in 2,500 cloches, pop them down, sow your seeds—special varieties of the "Call me Early" Kind—and then, heigh for market on shank's mare if you have no surplus at starting for a gee-gee. There are, of course, a few other odds and ends, such as 400 French-made lights, 133 frames, 600 mats—we are not responsible for the quantities, but detail them as per the eminent source from which they came to us. And then there is the labour, which seems a bit vague. However, that is a mere detail, too, presumably. There are such items as shading the cloches—merely a pastime. Say you shade 100 cloches an hour, nearly two a minute, that at 2,500 works out at—er, that wont do, but our page is full. To the man with a little means waiting to get on, there you are.

Culture of Vegetable Marrow.

By WILLIAM JOHNSTON, Longford.



WILLIAM JOHNSTON.

THIS delicious vegetable, which is also used as a fruit, deserves to be more widely grown than it really is, since it requires so little trouble to bring it to perfection. Some people imagine that the treatment required to grow this vegetable and the necessary labour it involves are more than the profits that are obtained. They also imagine that it is necessary to have glass,

either frames or houses, and rather than go to the trouble of obtaining glass they leave the growing of this crop alone. But with an ordinary soil, warmth, plenty of light and moisture, the cultivation of this profitable vegetable is quite easy.

SOIL.—The richer the soil in which vegetable marrow seedlings are planted the better will be the result obtained. The soil best adapted to produce the largest and finest fruits is that of a fibrous loam. Given this soil, placed on the top of an old hot-bed, the roots will

penetrate freely through the manure in search of food, and at the same time the plants will require less water, as the roots will receive an adequate supply from the manure except the weather be very dry. I have seen an excellent crop of vegetable marrows growing along the top and sides of a rubbish-heap, thereby hiding the unsightly appearance of the heap during summer and autumn.

SOWING OF SEED.—The seed should be sown in pots or pans, filled with light soil, about the beginning of April, covering the seed to the depth of half an inch, and placing same in a gentle heat of about 55° temperature. As soon as the plants are strong enough to handle, plant them out separately into pots, and replace them as near the glass as possible in the warmth. Remove them to a cold frame or window as soon as established, and keep gradually preparing them for final planting out by opening the lights during the day. These plants may then be transferred to the ridge or bed during the latter part of May, placing the plants in a triangular form about three feet apart, and water liberally, also taking care to protect them from frost and cold winds by having some spruce or other evergreen boughs stuck firmly into the ground around the plants. These will also aid in shading the plants from the heat of the sun until the roots have taken hold of the soil, when they may be removed as soon as the plants are safe from frost, &c. If hand-glasses are used the plants will grow much better underneath them than would otherwise be the case. It is essential to give plenty of air during the day by tilting up one side of the glasses. The seed may also be sown in May where the plants are intended to grow, but such plants are rather late in coming into bearing, and do not yield so large a crop as seed sown under glass in April. Seed sown in the open in May should be covered with inverted pots until germination is accomplished, when the pots can be dispensed with on fine days.

PREPARATION OF BEDS.—The beds in the open garden should be formed by removing the soil to the depth of fifteen inches and about four feet square, filling in the hole with partially decayed manure, allowing same to be raised a few inches higher than surrounding soil, and finally covering the manure with good soil of a fibrous, loamy nature to about one foot deep. The beds or pits should be prepared about a week before planting to enable the soil to be properly warmed by the heat from the manure.

AFTER TREATMENT.—The main shoots of the plants should be pinched when 18 inches long, and all side shoots resulting from the first stopping should be stopped at one joint beyond the fruit blossom. Give plenty of water in dry weather, and apply liquid manure frequently after fruit is set. It is necessary to artificially fertilise the first female blooms, but not later ones. If the vines are pegged down at a joint, fresh roots will be emitted and additional strength imparted to the plants.

GATHERING FRUIT.—Fruit for preserving should be cut when yellow and then hung up in a dry room till required for use. When required for table they should be cut while young and tender for the following reasons:—(a) Marrows cut while young are more desirable for the table, and (b) a larger supply will be obtained from the vines, as the production of large ones puts an

end to the supply. If the rind is impervious to the pressure of the finger nail, the flesh is rather old to cook; but it may be made into a delicious preserve with white sugar, ginger, and essence of lemon.

INSECT PESTS.—Slugs are rather troublesome to the young seedlings unless a good dressing of soot be placed around each plant, also some traps, such as pieces of boards, slices of turnips, potatoes, &c., set to catch them. If fly or aphid infest the plants, they can be removed by syringing the plants with soapy water after sunset.

BEST VARIETIES.—Webb's Large White, Long Green, Long White, Moore's Vegetable Cream, Large Cream, Pen-y-byd, Custard.

Potato Experiments in Co. Roscommon.

By E. H. BOWERS, County Horticultural Instructor.

THE following are the results obtained (1908) from experiments worked specially for the purpose of ascertaining the cropping and cooking qualities of certain varieties of early and late potatoes when grown in a somewhat stiff, cold soil. These experiments were carried out on a farm the property of Mr. Thos. Coleman, Knockarush, Boyle, as follows:—The "sets" were sprouted previous to planting, and were planted in drills 28 inches wide. A liberal quantity (14 tons) of farmyard manure was applied along with artificial manure, consisting of 6 cwt. 35 per cent. to 37 per cent. superphosphate, 1½ cwt. sulphate of ammonia, and 1½ cwt. muriate of potash per Irish acre.

RETURN PER IRISH ACRE.

Variety	Saleable		Unsaleable		Total	
	T.	C.	T.	C.	T.	C.
1. Ninety-fold	11	12	9	15	21	7
2. Epicure	14	19	6	0	20	19
3. British Queen	19	0	4	17	23	17
4. Irish Queen	19	5	2	0	21	5
5. Diamond	23	14	4	17	28	11
6. Duchess of Cornwall	25	18	4	6	30	4
7. Up-to-Date	29	2	4	0	33	2

It is interesting to note that Irish Queen, although it has the second lowest total (21 tons 5 cwt.), takes fourth place for the return of saleable tubers. Compare this with Ninety-fold.

Considering both cooking and cropping qualities, Duchess of Cornwall was an easy first, and was free from disease, and this variety was all that could be wished for. Next to it comes Irish Queen, with little to choose between Up-to-Date and Diamond. Of the early and second earlies, British Queen was all that could be desired. When grown in "bog," Duchess of Cornwall and Diamond were undoubtedly best. Any of the above were not planted until the middle of April, 1908.

The Month's Work.

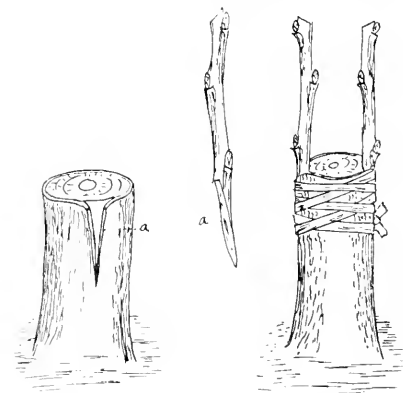
The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens,
Loughgall, Co. Armagh.

Grafting.

THE grafting of apples, pears and plums may now be done. The pears and plums first demand our attention; they must be done first, as growth is much earlier in them than in apples. The apple may be done any time during the month, and the later the more easily the operation is carried out, always bearing in mind that growth in the scion is not too forward. They ought to have been secured during pruning time, and laid in where they would be free from the effects of sun and frost. If this has been done, as advised in a previous calendar, they will be in good condition for grafting until late in the season. Use good, plump shoots about the thickness of an ordinary pen-handle and about six inches long. The tools necessary for this work are a fine saw, a large knife, a small knife, also raffia or soft twine for binding on the scions, and grafting-wax or a clay mixture to exclude air. There are very many forms of grafting, some of them more fanciful than practical. For the purpose of this article two or three will suffice. They are the methods, at present, most generally employed, besides, they are so simple that anyone may successfully perform them who has only sufficient courage to try their hand at it.

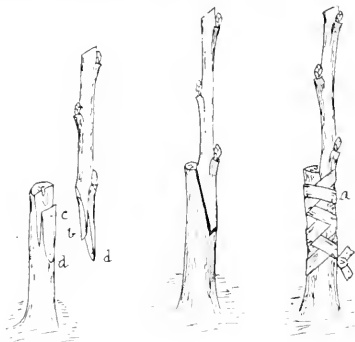
BARK OR RIND GRAFTING is the method now adopted in favour of the old form of grafting—viz., cleft grafting. For the renovation of old trees saw off the branch at a clean portion of its stem, free from knots,



smoother over the cut surface with the large knife, cut the bark about three inches down the stock; also cut the scion obliquely a similar length, lift the bark where the cut was made and insert the end of graft, push it down until its cut surface is covered by the bark of stock. All

now required is to bind it firmly in position (a simple matter in this case), and clay or wax over; two or three grafts may be put on one branch, according to its size; one or two are generally sufficient. In pushing home the grafts in this method it is important to bear in mind that the bark of the graft is liable to be torn, especially if the sap is not very active in the stock. To guard against this the bark should be first detached the length the graft is to be inserted. The handle of a budding knife may be used to do this.

WHIP OR TONGUE GRAFTING.—The form of grafting used where the stock and scion are of equal dimensions or nearly so; used in nurseries for grafting on the Crab and Paradise stocks, also quince, &c. The stock



is cut over above a smooth and straight part, the end of the scion is cut sloping and thin towards the lower part, then on the same side of the stock as the slope made in cutting off its top a slice is cut clean off, equal in length to that of the cut part of the scion, and in breadth, so as to expose as much of the wood of the stock as will equal that seen in the slanting cut of the scion. Both sections should be made smooth and plain, and as regards the wood, they should be the exact counterparts of each other. If this cannot be, they must be exact on one side at least. A thin, wedge-shaped tongue is made near the upper part of the slope in the scion, and a corresponding one in the stock to receive it. It is then securely fastened by binding firmly with raffia or similar material. The parts united must be made air-tight by either waxing or claying them over. Trees devoid of branches in parts where they are required may have shoots whip-grafted without cutting back to the part. A slice is cut out of the side of the branch or stem, the scions being prepared as before, but minus the tongue. Instead a notch is cut in the stock in centre of the cut right across it, and a portion of the wood left in the centre of cut portion of scion to fit into it. Place in position, tie and wax over. For a similar purpose—to fill up blanks in trees—where a branch is required a cut about three inches long is made down the bark, and two inches across the top of the cut; thus, T. The scion is prepared as in bark grafting; the bark is lifted where the two cuts join, and the scion pushed into position. This is a very simple method of furnishing bare trees, and most reliable.

SADDLE GRAFTING is a very neat and satisfactory method of grafting where stock and scion are nearly equal in size, the union being almost perfect, and very little danger of the scion getting damaged by winds. The stock is prepared by cutting its top in shape like a wedge, the scion is then slit up its centre, each half being thinned off to a tongue shape. It is then placed astride the stock, hence its name; its inner bark are made to join on one side of the stock. It is then firmly bound in position, and air excluded as in other methods. To be successful in grafting there is one important factor which must be borne in mind—this is, that the dividing line separating the bark from the wood in the scion must be placed exactly opposite the same line in the stock, at least in some part, and the greater the part the more readily will union take place. It is not sufficient to place bark to bark, as the bark of the one may be much thicker than that of the other. It is here, too, the substance called cambium lies, upon which the descending fibres of the scion feed as they strike downwards in their search for food. If the operator bears this in mind and excludes air, after a very few trials he can do the work equally well as the man who has spent years at it.

Grafting clay, to cover union of graft and stock to exclude air until growth has fairly well developed, may be made as follows:—

Clay, one part; road scrapings, in which horse-droppings form a good proportion, one part; break up well, make into a thick mortar by adding water; or clay and pure cow manure in equal quantities, mixed well together and added to mortar. To each of these mixtures add some chopped hay or very short grass, but I have found the above do quite well without either. When being put on it should be well worked in the hands, and in a day or two, if signs of cracking appear they should be gone over by dipping the hand in water and rubbing them until quite closed again. If this be done it will seldom be necessary to have them seen to a second time.

Grafting wax is sold for the same purpose. It is put up in tins ready for use cold; or home made ones may be made as follows:—

1. Yellow wax, 1 lb.; turpentine, 1 lb.; Burgundy pitch, 8 oz.; mutton suet, 4 oz. Melt all together, mix and let stand to cool; may be used cold, and will not stick to the fingers.

2. Resin, 1 part; yellow wax, 1 part.

3. Yellow wax, 2 parts; or suet, 1 part.

4. Burgundy pitch, 1 lb.; black pitch, 4 oz.; yellow wax, 2 oz.; resin, 2 oz.; mutton suet, 2 drachms. The above three, Nos. 2, 3, and 4 have to be used warm, which is a drawback.

PRUNING NEWLY PLANTED TREES.—Much differences of opinion exist amongst fruit growers as to whether fruit trees should be pruned or not the first season; some favour doing so and others take the opposite view. Trees which have been planted sufficiently early in the autumn to allow them to take to their new quarters before winter sets in will now be showing signs of growth, and may safely be pruned; to defer doing so would mean a great loss of energy in allowing the leading shoots to expend their leaves when the sap should be directed towards forming new shoots. If trees are

carefully pruned during the first few years of their lives, all branches which cross each other cut clean away and the centre kept open, very little severe pruning will afterwards be necessary. Trees which have been planted during winter and spring may be allowed to grow as they are without pruning until next season. Encourage growth in these and to this end. If at all dry at the roots, or if harsh, windy weather prevails, they should be regularly supplied with water; if this be neglected loss of trees will ensue, as they, being so late planted, have not had an opportunity of making new roots.

CROPPING ROUND FRUIT TREES. The planting of a root crop, such as potatoes, turnips, &c., round fruit trees the first few years after being planted is a common practice, and one, too, to be recommended, as considerable loss of ground would otherwise result. But it ought to be more judiciously carried out than is very often the case. Far too often we see trees during the summer and autumn smothered by the crop growing round them. This should not be. Due regard ought to be had for the trees, and their requirements more carefully studied, as trees in such a case are deprived of light and air—most important factors to their well-being—and, what is of equal or possibly more importance, they are robbed of moisture during the whole growing season. By all means crop round the trees, but do not encroach on their roots. At first it is possible to crop to within a yard of the tree; each succeeding year we must keep further and further from it, until such time as we find the trees require all for themselves.

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

WILD GARDENING.—There can be no more agreeable phases of communion with nature than naturalising the natives of countries in which we are infinitely more interested than in those of which greenhouse or stove plants are native. Any one who has seen examples of wild gardening realises how artistic and delightful it can be made. Hundreds of the finest hardy flowers will thrive much better in rough places than ever they did in the old-fashioned border. Again, it enables us to grow many plants that could never obtain a place in our so-called "trim gardens," and also to make a good patch or clump of a subject where the best effect can be seen. Many years ago this style of gardening was begun at Carton by the late Duchess of Leinster. In woodland walks and drives, and high up in the crevices of rocks, may now be found beautiful pictures as the springs and summers pass. In an old gravel pit at St. Helen's, Booterstown, the wild garden idea has been happily worked out, and a delightful result obtained from what looked lately very unpromising material. To illustrate this, what is the planting in grass of daffodils, snowdrops, crocus, tulips, anemones, and soforth, but wild gardening? Amplify this by also planting good, big patches of such things as foxgloves, peonies, helianthus, doricium, polygonium, rudbeckia, veronicas, heracleum, celinops, digitalis, campanulas and starworts. While all these plants are perfectly hardy, and require no attention after once

being established, it is important, to ensure success, that care should be taken at the start to see that the ground is dug through and cleared of roots and a liberal supply of manure worked in. In poor and dry soils the ground should be dug two spades deep. In soils of a loamy nature one spade deep will suffice. The best effects are produced by planting bold groups of a good size, and also in having well-established strong plants, as they have to make their way often under adverse conditions.

SCHIZANTHUS WISETONENSIS.—This is a beautiful annual, fitted either for pot or border culture. Large plants for a summer display in the conservatory are generally grown in seven and eight-inch pots. An edging line for the front of the plant stages can also be had by sowing schizanthus now and confining them to four-inch pots. When pot-bound they commence flowering, and with the aid of some liquid manure growth will be sustained and a long season of bloom kept up. In a warm, sheltered part of the garden try a few outside at the end of May. They flower best where the soil is poor and moderately dry. Rich soil only encourages rank, soft growth with little flower.

THE PERGOLA.—Perhaps it is not yet too late in the year to draw attention to the making of a pergola in the garden. A pergola is a delightful feature in a garden of any size—even on the smallest suburban plot between a front door and gate to public road—and one of its many charms is the opportunity it affords for admiration and enjoyment of so many beautiful plants, which otherwise would seldom be seen, owing to their requiring to some extent artificial support. The pergola may be elaborate and costly, but there is no necessity for anything of the sort; the simple rustic ones, which can easily be made by an intelligent "handy" person, being perhaps the most pleasing. A great saving in timber may also be effected by a rather free use of wire, especially at the top of the structure. Gardeners are ever ready to impart information to others interested in gardening, and a visit to a garden where a good pergola exists—and there given a few first-hand particulars in reference to the building—will be far more helpful than following written directions. When planting the furnishing plants see that the drainage is good, and give the roots an abundance of good soil to feed on.

PANSIES AND VIOLAS.—Few flowers are more general favourites; fairly heavy, rich soil suits them best. It should be prepared by digging and the incorporation of well-decayed cow or horse manure. The best position is one not too sunny nor too shady. One generally sees them planted as a front line to the ribbon border, or as edgings round beds; but the whole of a border devoted to violas, with their diverse and rich tints, is something to be remembered. At the Scottish National Exhibition last year a wide border planted wholly of violas in different colours was a novel and interesting exhibit. Violas are true perennials, and keep growing after starting to flower, and give a continuous succession of bloom from the spring months to the autumn. Let the planting be done early this month before the ground gets too hot and dry.

STANDARD FUCHSIAS.—In the People's Gardens, Phoenix Park, last year, quite a distinct feature was made with standard fuchsias, and very beautiful they

were. For "dotting" in large beds and mixing in a border where flowering shrubs is desired, fuchsias are a decided acquisition. Of course it takes time to grow these from cuttings, but something may be done with second year plants. Trim off the side branches, and so form a clean stem, leaving only a few at the top, and train these out to form a head. Keep growing on the plants indoors in a light, airy structure to get them as large as possible, and after being hardened off finally place in their summer quarters about the second week in June. Pick off all flowers that appear till they go out of doors, the object being to get all the strength into the making of growth instead.

SWEET VIOLETS.—No one should neglect the culture of these sweet flowers, and a place should be devoted to them in the flower garden where ladies may conveniently pick a few fresh blooms when they feel disposed. When new growths are made in April and May a piece of ground for them should be well manured, working in a good share of leaf-mould. The runners may then be raised with a fork, and the best rooted selected and planted nine inches apart each way. Give partial shade in bright weather after planting, and throughout the summer they ought not to be allowed to suffer for want of water. Runners that appear during summer should be picked off. In this way fine plants will be obtained by the end of September, and will bloom more or less according to the weather, but, of course, more profusely during the following spring.

PLANTING.—A good deal of thought is necessary this month to plant what will give a succession of flowers through the summer and autumn. Herbaceous plants are now so largely grown and found to be so satisfactory that the perennial border has largely superseded the old-time summer bedding-out arrangement. Towards the middle of this month, if the weather keeps favourable, *Lobelia cardinalis* in variety may be planted; these give valuable flowers for autumn effect. Hybrid gladioli is unequalled when grown in masses or clumps in the border. The bulbs should be planted four inches deep and fifteen inches apart. If the soil is cold and heavy a little coarse sand around each bulb when planting will help the young roots. They may also get a preliminary start in boxes placed in slight heat, and when three inches high harden off and plant out. The taste for autumn flowering chrysanthemums still increases, and, in addition, to established favourites, which most gardens have a few of, the single flowering sorts are also available. It is now possible to have quite a show of singles in the garden during September and October. Good sorts that will be found useful are Earlswood Beauty, Walton Bradbury, Dora Godfrey, Ladysmith, Lorna Dando and Glads Hemsley. The pentstemon has few equals for massing in beds or borders. They are much larger and brighter in colour than they were some years back, succeeding in any good garden soil, and if enriched with some good, decayed manure the flowering season will be prolonged. The variety, Newbury Gem, is of a very free dwarf habit, and is smothered with graceful spikes of a glowing scarlet. It is excellent either in lines or beds, and also a capital thing for cutting. Second year plants yield the best supply of flower. Canterbury bells, choice carnations, hollyhocks, antirrhinums and other plants

of this class that have been partially sheltered during winter may all be safely planted out now where they are required to flower.

THE SPRING GARDEN.—Where beds are filled with spring flowers, tulips and hyacinths are making headway, and the latter will require attention with stakes. Blanks in the wall-flower or any other of the spring bedding plants should be made good from the reserve garden.

A neat and tidy appearance in the garden must now be maintained, and the edges and verges on the side of walks and flower beds should have the turf cut neatly.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

THIS is another busy month in the vegetable department. With the increasing elevation of the sun and the lengthening of the day evaporation usually becomes greater. This may necessitate the watering of plants recently transplanted. It also increases the importance of hoeing. At this season of alternate showers and sunshine a surface-crust is quickly formed on the soil. To counteract the evil of this too is more valuable than the scuffle or Dutch hoe. As well as preventing the growth of weeds, which in itself means a great saving of time and an aid to the growth of crops, its regular use keeps the soil in healthy cultivation and prevents evaporation. After hoeing, treading on the surface should be avoided.

GENERAL WORK.—Stimulate crops of cabbage with a pinch of nitrate of soda to each plant. Clear away the crops of exhausted Brussels sprouts, broccoli, &c., and prepare land for successional sowings of peas and early celery. Make successional sowings of cos and cabbage lettuce. If roots are not available, in rich, friable soil sow sea-kale and rhubarb. If not already done sow parsnips as soon as possible. A broad sowing of Snow-ball turnip should also be made. Prick off Brussels sprouts, cauliflowers, &c., sown earlier to make them sturdy for planting out. Brussels sprouts doubly repay for care in nursing and early planting. Make a full sowing of such kinds of cabbage as Enfield Market, Improved Nonpareil, and Early Etampes. The last is a small variety, and of good form and flavour. Full sowings of broccoli to form a succession must also be made. Use good selections of such varieties as Veitch's Self-Protecting Autumn, Snow's Winter, White Sprouting, Knight's Protecting, Leamington, April Queen, Sutton's Late Queen, and Mackey's Champion Late White. Sow also full sowings of Drumhead Savoy and some of the smaller kinds of Savoy—which are more appreciated at table—and of kales in variety. These sowings ought to be got in about the middle of the month, according to the weather, and by no means made too thickly. (For method see calendar of last month.)

Successional sowings of peas and broad beans should have attention, and advancing crops due care. Some suitable varieties of peas for these sowings are Veitch's Perfection and Ne Plus Ultra. The ground between rows of peas may be utilised by sowing summer spinach and turnip radishes. In the open spinach beet and sea-

kale beet can also be sown. These are useful crops, and often turn in when other vegetables become scanty. Harden off cauliflower and lettuce plants in frames by full exposure for some days, and plant out.

GLOBE ARTICHOKE.—Plant suckers on well-prepared and manured land. Allow four feet between the rows and three feet from plant to plant. To prevent any failure put two sets in each space. These, if well attended to, give a supply in autumn. Old stools should be well thinned to about four of the strongest suckers. Globe artichokes best like a rather moist situation.

CARROTS AND SALSIFY.—The main crop of these vegetables must be got out so soon as a suitable chance offers. The soil for these should be deep, fine, and friable. The use of partly decayed manure at the time of sowing is not recommended. Land that has been manured for a previous crop, and left dug in a rough state through winter, is suitable. Being friable and dry it is easily reduced to a fine seed-bed. A good form of intermediate carrot, as James' Intermediate, is generally best for main crop. The distance between the lines may be one foot, and the crop finally thinned to about six inches apart. The same distances suit salsify. Where soil is unsuitable for carrot cultivation, special preparation should be given to it by making a surface of light soil, containing wood-ashes, leaf-mould, &c., and sowing Scarlet Horn in lines eight inches apart.

VEGETABLE MARROWS AND RIDGE CUCUMBERS.—These should be sown in heat about the first week of the month, and kept to the full light, so that they may be short and stout for planting under hand-lights in mid-May. Sow a couple of seeds in each pot, three inches in diameter. Use a compost of leaf-mould and loam. When the seedlings are strong enough one can be pulled out. In parts of County Cork vegetable marrows were successfully grown last season by sowing seeds in the open fields about the beginning of May. Ridge cucumbers, too, were good without special treatment. Plants set out at the end of May in manured soil yielded well, but the season was favourably warm.

FRENCH BEANS.—About the end of the month a sowing of Ne Plus Ultra should be made in a dry, sunny border, well sheltered by a wall or fence to ward off frost and cutting winds. At the same time a sowing might be made in pots or boxes in a frame in case of the loss of those outside. If a light compost containing more than half of partly-rotted leaf-mould be used it induces the development of a strong root system. This will stand well to the plants when put out. For this purpose a small space can be utilised to grow a large number of plants.

ONIONS.—When onions that have been sown under glass are strong enough for planting—that is, when six or seven inches high—they should be planted out. The situation ought to be quite open and the bed thoroughly well prepared and enriched. The plants must be carefully lifted and planted with a trowel. To grow the largest bulbs the distance between the lines may be eighteen inches, with fifteen inches from plant to plant. The ground should have been trenched over winter. When farmyard manure is added in early spring it must be thoroughly decomposed. It should also be added liberally. There is in existence much farmyard manure of poor quality. To grow

good, large onions the manure should have been properly made, and be of good character. A dressing of soot and lime is beneficial, as are also wood ashes and bonemeal. To grow exhibition bulbs, if bonemeal and wood ashes are not to be had, some chemicals must be substituted. Apply superphosphate, 3 parts to 1 part muriate of potash at the rate of about one pound to four or five square yards. Distribute evenly, and lightly fork in. When the plants are re-established, or about in the course of a month, watering with a solution of sulphate of ammonia, half an ounce to a gallon of water, will hasten and increase development.

CELERY.—It is an advantage to have celery trenches made in advance of planting-out-time. To grow extra large heads for early use, the plants require to be planted early. They also want a sufficient width of trench that will contain plenty of manure. The distance between the trenches should be four feet, and the trenches may be quite two feet wide and about fourteen inches deep. When the trench is opened the soil below should be forked fine; on this a layer of five or six inches of decomposed farmyard manure is spread. On the surface of the manure a layer of rich compost should then be shovelled. The spaces between the trenches can be utilised by growing lettuce and radishes thereon.

The Herbaceous Border.

By FRANK HUDSON.

SOW seeds of Ten Week stock, aster, verbena, ageratum and other half-hardy annuals as soon as possible, in gentle heat, in pit or frame. As soon as seedlings have germinated give air and light to keep the seedlings sturdy. When they have made rough leaves transplant about three inches apart into cool frames or boxes; keep them close and shaded for a few days until they have taken root; then keep them close to glass, and give plenty of air during the day time. Sow sweet pea and sunflower seeds at the back of the border. All seeds of hardy annuals can be sown this month. Sow seeds in patches; they can be thinned out later on.



FRANK HUDSON.

Start dahlia tubers at once; plant gladioli in clumps in vacant spots, the larger the clumps the better the effect they will give. Violets should be taken up and the best runners selected to plant again; keep them well shaded and watered, if necessary, until they are established.

Cuttings of phlox and Michaelmas daisies can be struck this month. Select cuttings from four to five inches in length, put three or four cuttings into four inch pots. Place in gentle heat until they have taken root; harden off gradually. These will make nice plants for the following season.

Bee-Keeping.

By T. MAGUIRE, The Orchard, Enniskillen.

WITH the warmth of April the energies of both bees and bee-keepers begin to awaken. The enthusiastic novice has been reading up the bee books during the winter, and he now knows exactly how to treat his stocks so as to bring them up to prodigious strength before the honey flow. He is bursting with impatience to get at them; his fingers are itching to get hold of the frames, to see if the queen is all right, to "spread the brood" in such a way as to bustle her up to laying unprecedented quantities of eggs, and he probably has several new ideas of his own calculated to enable him to have sections ready for sale before other people, not so well up in the business, have put them on. There is hardly any hobby so enthusiastically ridden as bee-keeping, especially for the first couple of seasons. Beginners will keep fussing and fiddling at their pets. The heroism of braving the stings of the ferocious insects appeals to them. They love to show their friends how easily the said ferocious insects can be subdued. The queen is trotted out on all possible occasions, and subduing and controlling and brood-spreading are the order of the day. And then they wonder how on earth it comes that the neighbour, who knows so little about bees and perhaps cares less, can have his stocks in roaring form, whilst they, with all their anxious care and fuss, should have stocks which seem to grow smaller rather than otherwise. The explanation is simple. The neighbour leaves his bees alone. He probably neglected—perhaps forgot—to take off that last crate of sections in the autumn, and allowed his bees to shift for themselves. Bees rather like shifting for themselves, provided they have a decent hive and plenty of stores. The enthusiast may think he can arrange their combs better than they can, but he is mistaken; the bees know most about it. They have a place for the honey, a place for the pollen, and a place for the brood. Disarrange that and it is like putting the piano in the coal cellar and the bed in the pantry. How the poor things would swear sometimes if they only knew how! No wonder swarms will go off to the hollow of a tree or the hole in a roof to get rid of that meddling bee-man with his confounded smoker and his carbolic cloth. The moral is—leave your bees alone until the weather is sufficiently warm to play tricks with them, and even then leave them alone as much as you can. If they require feeding of course they must get it. Feed only in the warm weather if possible, and make no attempt at forcing the pace until May comes in. Brood-spreading in cool weather is certain to throw the stock back. Most beginners start stimulating too early. There is no necessity for early stocks unless to catch the fruit bloom. The hawthorn does not come in till June, and even then only yields honey in very hot weather. The clover, the mainstay of the Irish bee-keeper in general, does not begin till the end of June, and stocks can be worked up for it by beginning to stimulate on the first of May. May is the month to feed. Old hands can operate so as to secure early stocks. Beginners will do much better to leave all that to the bees.

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Contents

	PAGE		PAGE
The Making of our Home	65	A Note from Glasnevin	75
The Herbaceous Border	66	Poppies	75
Rock Gardens	68	The Month's Work—	
Roses	69	The Fruit Grounds	76
May Notes	70	The Flower Garden	76
The Reader	70	The Vegetable Garden	78
Artificial Manures	72	The Herbaceous Border	79
The Flowering Currants	73	Bees	79
Current Topics	74	Notes	80

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3	<i>Out of Print.</i>	53	The Construction of a Cowhouse
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock (or Preshaugh) Spraying	56	Cultivation of the Root Crop.
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14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act Regulations, 1907.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
17	The Use and Purchase of Manures.	67	Forestry: Trees for Poles and Timber.
18	Swine Fever.	68	Forestry: Trees for Shelter and Ornament.
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25	Fowl Cholera.	75	Barley Sowing.
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34	The Revival of Tillage.	84	Ensilage.
35	The Liming of Land.	85	Some Injurious Orchard Insects.
36	Field Experiments—Barley.	86	Dirty Milk.
37	" " " Meadow Hay.	87	Barley Threshing.
38	" " " Potatoes.	88	Instructions for the Home Bottling of Fruit.
39	" " " Mangolds.	89	The Construction of Piggeries.
40	" " " Oats.	90	Advantages of Early Ploughing.
41	" " " Turnips.	91	Black Scab in Potatoes.
42	Permanent Pasture Grasses.	92	Home Preservation of Eggs.
43	The Rearing and Management of Chickens.	93	Marketing Wild Fruits.
44	"Husk" or "Hoosa" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
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ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

MAY
1967

The Making of our Home.

(Fifth Article.)

By CHARLOTTE G. O'BRIEN.

NOT this year has roaring March come in like a lion, rather indeed as a Polar bear he has come snarling along, baring his frost-white teeth, his soft, mazy, snow-white locks shaking and quivering to the East wind. He seeks the tender green things neglected throughout our mild, unguarded winter, and stabs them with his ice-cold fangs. And yet some days the dazzling sun of Polar summer has followed his footsteps. On the 6th I think it was, for two hours or so, though the frost was caked white under the shadow of the hill, I lay out basking, basking in the sunshine on a carpet of needles under the *Pinus insignis*, the grey needles underneath dry and crisp, and hot the green needles overhead shivering and shimmering against the clear, blue, frost sky, while the great bole and branches of the pine caught me with desire for my photo man, kind Mr. Hurley, who has allowed me to use his charming photos for these papers.* For, indeed, the right use of photography is to interpret the intricacies of vegetation, or of the human countenance, or animal life. Scenery at a distance is invariably a failure. So I was thinking as I lay in the sun under my pinus looking far out over the island, beyond to the Beeves Lighthouse, and away and away, and my heart sank at the thought of even attempting to speak of our river, of our ever varying, ever wonderful Shannon, which lay before my eyes, it and its country spread wide in its sweeping magnificence of tender, frost bright colour. Looking at this photograph (see p. 67) you see indeed the garden and the island, and the Port of Foynes all right, but you do not see even in a suggestion

the great plains of Limerick and Tipperary extending thirty, forty, fifty, perhaps even sixty miles, where the Golden Vale intervenes between the Galtees and Lough Gur hills to the south-east, and the Keeper range, Limerick, Cratloe and Clare hills to the north-east, at the foot of which the Shannon loses itself to our view after spreading up the Fergus estuary to a width of five miles or more. The Port of Foynes is enclosed by the island, which occupies a sort of corner. North of the island the main river flows three miles wide before it divides as you go up the river. It is salt water, so the tides give a constant variety, sometimes brimful to the green edges, again leaving apparently only the real river in its oozy channel.

That March day under the pine I lay and watched the gradual lifting from off the distances of the smoke-like band of fog that hid the hills and the far off plains, while all near at hand lay in a blaze of hot sun. The sky above the brown fog band was of that lustrous, blue-green transparency one sees when the air is saturated with moisture and sunshine and partially crystallised by frost. It is a very bad weather sign, but is most beautiful and brings with it occasionally most wonderful mirage. Look down at the river and you will see that blue-green band repeated. You will not look down *on* it but *through* it. It stands before your eyes raising the banks above almost into cloud-land. I have seen on such a day as that the whole wide river towards Clare apparently lifted so as to overflow Cahircon, Kildysart, and the country beyond. So perfect was the illusion that for the moment I was taken in by it myself, and to make it fully natural a good-sized ship with trailing boat, every cord and colour clear, was floating at first over the hill

* James Hurley, Travelling Photographer, 14 Staines Street, South Circular Road, Dublin.

land, then it actually rose into the clouds—smoke-like clouds—through which it seemed to pass in and out. A most extraordinary case of the Flying Dutchman! We watched it for nearly an hour, and as the sun gained power the mirage sank till the whole picture regained its normal river bed. The ship may have been behind the island, I do not know, but we had terrible weather for a week after. My river talk must stop a while, and I give place to my betters.

The Herbaceous Border.

By L. B. M.

IN the herbaceous border there is much scope for the taste and skill of the gardener—with few restrictions—also a fine return for a not very considerable outlay of time and money; hence, it is perhaps the most popular of all forms of gardening. The cottager can indulge in it as well as the man of means, and, indeed, often makes a much better use of the material at hand. Flowers seem to respond to individual and loving care, and to know what is expected of them, and the old cottager's lilies and pansies are often finer than those displayed in the rich man's garden.

If you go the right way about it you will have endless beauty and enjoyment out of this herbaceous border of yours, but to gain these desired results the preparation must be thorough. The border may skirt a wide sweep of lawn—and nowhere will it look better—or edge a drive or wide path on one or both sides, and, if possible, have a southern or western aspect. Four feet will be narrow enough, wider if the surroundings will allow, and see that no all-devouring hedge is close behind it whose roots will absorb the nourishment intended for your plants, and starve them out of existence, though a hedge at a safe distance will make a fine background.

It may be taken for granted that the ground is well drained and deeply dug, a liberal allowance of manure worked in some time previous to planting, and if the soil is at all heavy the addition of sand or road grit will bring it into proper condition. A well made border ought to require little attention for two or three years beyond keeping the weeds down and occasional mulching, keeping the flowers in bounds, and division made when necessary. The flowers will only thank you for leaving them pretty much to themselves when they are safely ensconced in their permanent quarters.

Indeed, I would say that the first preparation—at least for a novice—ought to be in summer, when a close acquaintance can be made with the flowers when in bloom and references stored up against the planting time. Then there will be no placing side by side of mortal enemies, whom you can almost hear calling names at each other when this one flaunts its scarlet blossoms in the purple face of its neighbour, or that tall giant stretches out spiny arms and scratches the face of the brilliant little beauty who deserves a more congenial companion. So study your flowers while you may that

there may be no wrath and confusion afterwards in your border.

At the back the taller plants will be placed, but not in formal lines, and good, strong clumps if possible—giving room for each to increase. For June blooming the tall, blue delphinium is well able to look over the heads of its companions, and verbasicum will make a stately companion, its yellow flowers looking well with the blue. And here it may be remarked that scarlet and crimson must never be allowed to come in contact; crimson and pink may accord, but scarlet and crimson or magenta never. Indeed, magenta is a colour to be avoided as much as possible. If you are a woman study the colours of your flowers as you do your hats and gowns, and the result will repay you.

One part of the border may be entirely different from the other, though clumps of the same plant can be repeated where the colours may be necessary.

But there are other things to consider besides harmony of colour. There must be no large, bloomless spots in the border, at least not for long, so just here beside the delphinium and verbasicum, a gaudy late phlox—*Etna*—will be planted, and the white anemone Japonica, to keep up the bloom in August, while nearer the front the fragrant yellow and orange day lilies and double white rockets will find a place for July blooming. Continuing near the back a late mauve perennial aster, with pink hollyhock and eryngium near, not forgetting a tall border geranium and white *Chrysanthemum maximum*, and for companions the flaming oriental poppies and white campanulas to soften their glow.

In roomy spaces plant freely the white and yellow tree lupins, which deserve a whole month to themselves to bloom without a rival, so fine are they.

A judicious use of bulbs will add much to the beauty of the scheme—groups of tulips near the front to make bright spots in May and irises in June, *Lilium candidum* to rear its stately head above the rest in July, while gladioli will carry on the bloom till October. The groups of bulbs ought to be marked, so that no ruthless spade may come their way when they are wholly underground.

Continuing, the taller plants of *Rudbeckia Newmanii* will bloom late and well with varied phloxes and pentstemons of vivid hues, while galegas, spiræas, erigerons and pyrethrums blooming in July, and of medium height, can be planted near such April and May flowers as delytra, doricum, troilus, &c. The scarlet lychnis and white achillea will accord well together, and farther down the border the intense blue of *Anchusa italica* shows well beside pink border geraniums and hollyhocks, and the light blue scabiouses provide colour when aquilias and campanulas have shed their beauty.

A free use should be made of the early flowering chrysanthemums which will bloom on till October, as will also the rich, hued dahlias and montbretias. Foliage plants may here and there find a place, but not too many; they may sometimes serve to separate doubtful neighbours. The handsome hardy dracena or noble yucca, where space permits, or even the fragrant rosemary or lavender, will vary the general effect.

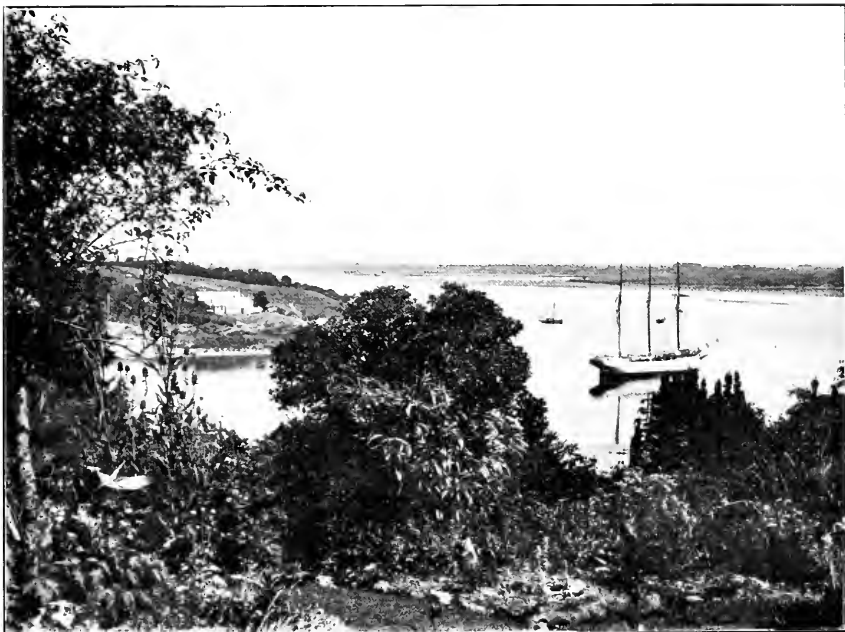
The perennial centaureas of the Montana type have been omitted, as they are the most assertive and troublesome of plants, and if in a weak moment you allow them a place in your garden they will march their

victorious way over and under and through your choicest plants until you be in despair. You may pull them up, dig them out, and imagine you have seen the last of them; then if you are deluded enough to think you may safely take a holiday of a few weeks you will come back, as I did, to find a new crop of centaureas triumphantly blooming in October, while for the sunflowers let not their golden glory tempt you or you will rue the day you first saw them. So take a word of warning!

Continuing the list of good things, and coming towards the middle of the border plant, such flowers of medium height as Iceland poppies, crimson potentilla, the

stylis with its small gladioli-like blooms opening out in October. Gaillardias can mingle with the handsome-striped of the funkias. Carnations are the most choice of plants, but require much attention if they are to give any return, so may be omitted in a general border.

Coming quite to the front there is room for a free use of the dwarfier Alpines, such as *Gentiana acaulis*, to blend its intensely blue blossoms with those of the yellow auricula, double arabis and its variegated form, and golden masses of *Lysimachia aurea*—a rare form of the Creeping Jenny. The lovely little white and blue harebells, *Campanula carpatica*, must not be forgotten, nor



THE MAKING OF OUR HOME—"THE EVERVARYING, EVER WONDERFUL SHANNON."

graceful pink henchera, all blooming in June, not forgetting the new and lovely hybrid pæonies, with, perhaps a group of *Hyacinthus canticans* to break the monotony, as the tall plants must not all be planted at the back.

As the painter brings his most beautiful objects and brilliant colours into the foreground of his picture, so must the gardener bring his choicest and loveliest flowers toward the front of the border, where *Lobelia cardinalis* can glow its brightest in company with such beauties as the white *Spiraea japonica* and *S. filipendula* and the crimson form *brunalda*, gypsophila and scarlet geum, with mimulus of varied hues, anemones of sorts, notably the scarlet fulgens, and the lovely schizo-

the finer sedums, such as Kamtschaticum and the Starfish sedum, the fine *Saxifraga pyramidalis* with its tall, white blooms. *Alyssum saxatile* is too well known to need description, being simply a sheet of gold in April, and later on the starry *Saponaria ocymoides* will bear its pink blossoms in the same profusion. If an edging of flat stone is used, irregularly, these Alpines will revel in such a position, sending their roots deeply under the stones for moisture and covering them over with masses of foliage and flowers.

It goes without saying that the delicate sedums and saxifrages must have a light sandy soil, and it is still more important that the silvery-leaved and variegated plants must also have a poor soil else they will quickly

lose that distinctive appearance which is their chief claim to beauty; it is easy to manage this as the dwarf plants must necessarily occupy a forward position in the border.

For those who prefer a straight edging of one species of plant the old-fashioned clove pink will make a neat blue-green border smothered with fragrant blossoms in June or cerastium stretch a snowy line of both flower and leaf. *Sedum formosum* will look well summer or winter, and July is brilliant with yellow blossoms.

Indeed there is such a wealth at our command that the trouble is not what to take but what to leave, and if one has not a herbaceous border of glowing beauty and richness in a year or two after the making the fault is surely his own.

The close study of flowers and plants is an entrancing hobby and educative from every point of view, and the closer we come into contact with nature the better will we understand her. A writer has truly said, "Nature belongs only to the eyes who see her," and the person is much to be pitied to whom nature is as a sealed book.

Rock Gardens.

By GEORGE S. SATTERLEY, Brennanstown Gardens,
Cabinteely, Co. Dublin.

(Continued from page 55).

THE stone employed will usually be local, but is sometimes imported. A dull, coloured stone is preferable, and if weather-worn is so much the better. Whatever the material selected, care must be taken to have it of a durable nature. Limestone is about the best. Granite is very good, and sandstone also, but care must be taken that the latter is not of too soft a nature. No artificially made stone, clinkers, or other such material should be used. These always look out of place, and in the Alpine garden the rocks are never entirely hidden from view. In the actual placing of the rocks in position it will always be found that each has a best side, and it will follow that if, instead of dumping, care is taken to let each sit as it would rest naturally a great deal will have been attained in the way of informal arrangement. As the work proceeds, a series of pockets, ledges, bluffs, hillocks, and bays will be formed. Such pockets as are formed should be of irregular shapes and providing varied aspects. Some should be made in such a way as to effectually screen foliage and flowers from sun, rain, and snow, but leaving means whereby the rain may penetrate to the roots. In fact it is essential that the rain may be able to pass through the whole body of soil. In preference to the formation of too many pockets provision should be made for whole colonies of subjects. Allow for the lateral extension of plants. Large rocks need to be buried considerably, and as each is fixed in position it must be made to lock with its neighbour, and be capable of withstanding a heavy strain.

Never trust the soil to support the rocks. Excessive use of stone is to be avoided. This mistake is sometimes to be observed in otherwise well-made rockeries. The contour of the ground is to be followed as far as practicable. Where additional height is needed it should be obtained by adding sufficient soil, and then embedding the rocks. As the soil is excavated for the

reception of the rock, it is used to fill up all pockets and cavities already formed, ramming firmly into such spaces. The whole work when completed will present an irregular outline. In rock-gardens on a large scale steps and walks are necessary for freedom in moving about. Steps and minor walks may be formed by laying down partially flat stones in such a way as to provide good footing without undue formality. For main walks gravel is recommended. If the work has been carried out with an informal outline, as above recommended, and plants allowed to roam freely into the walk in places, a pleasing effect is obtained in addition to a serviceable walk. Before furnishing with the plants add the necessary soil where sinking has taken place.

Spring is the right time for furnishing. When planting bear in mind the requirements of each, whether a moist, shady, or open and sunny situation is best. In all cases plant firmly and allow for extension. Many are best sown where they are to remain. Some will afterwards reproduce themselves by self-sown seed. Plant the whole surface. Chinks between masses of rock, beside walks and steps, all will provide a home for some subjects. In natural formation, plant all banks, cliffs, and such like.

When once furnished the rock-garden will not give much trouble. Weeds must be rigidly kept down. Stirring the soil occasionally, removing decaying foliage, saving seeds and sowing same, doing the necessary propagation, preventing strong growers from over-running weaker ones, and mulching as necessary, all come under the routine treatment.

In some cases protection is needed during winter from excessive rains. A good method of providing what is desired is by means of a sheet of glass fixed in a frame in such a way as to throw off the rains without coddling the plant. A good mulch for general purposes is composed of fine leaf-mould, grit and loamy soil. For some plants it is advantageous to place small stones over the surface. Slugs and snails give trouble. For very choice subjects a wire gauze protection is advised. There are preparations on the market fatal to these pests and harmless to vegetation. A list of plants, grouped according to different positions, here follows. It is not intended as a complete list, but to serve as a guide to the planter. For further information about suitable varieties, &c., reference should be made to the catalogues of reputable firms.

PLANTS RECOMMENDED FOR RAMBLING OVER ROCKS.—*Acæna*, *ajuga*, *arabis*, *alysium*, *aubretia*, *cytissus*, *corokia*, *corydalis*, *daphne*, *dianthus* of sorts, *genista*, *gaultheria*, *helianthemum*, *hypericum*, *iberis*, *lithospermum*, *athionema*, *polygonum*, *phlox* (alpine vars.) *spanonia*, sea campion (double form), *saxafrages*, (mossy section), *thymus*, and many more.

PLANTS RECOMMENDED FOR SHADY PLACES.—*As-trantia*, *andromeda*, *Bellis carulescens*, *chrysosplenium*, *corydalis*, *claytonia*, *epimediums*, *epilobium*, ferns, *hepaticas*, *Houstonia*, *incarvillea*, *Orobis vernus*, *omphalodes*, *primulas* in variety, *cyclamen* (hardy varieties), *polygonatum*, *Ramondia pyrenaica*.

FOR PLANTING IN CHINKS BETWEEN ROCKS, STEPS, &c.—*Antennaria*, *anemones* (some varieties), *armeria*, *arenaria*, *erodium*, *Geranium argenteum*, *Linaria alpina*,

primulas, ranonidia, angustaria, sedums in variety, saxifragas and sempervivums in variety, *Spergularia pilifera aurata*.

SUITABLE PLANTS FOR POCKETS AND COLONIZING.—Androsace, anemone in variety, *Aster alpinus*, arenarias, *Anthemis Macedonica*, campanulas in variety, cheiranthus, *Cypripedium calceolus*, celmisias, daphne, dodecatheon, dianthus, antheras, ericas, epimediums, edelweiss, funkias, geraniums, *Gypsophila crastoides*, *Galax aphylla*, gentians, Hutchinsia, *Hieracium villosum* lithospermums, linums, menziesia, meconopsis, mesembryanthemum, *Phytanema betonicifolia*, saxifragas in variety, *Soldanella alpina*, and veronicas of sorts.

Roses.

By O'DONEL BROWNE, M.D.

OFTEN have I heard the remark made "that a rose tree has been bought from some source, carefully planted, and no record kept of the very name." More than once have I advised my readers to carefully enter the names of every tree as soon as planted in a notebook; for get what labels you like or will sooner or later they get destroyed or lost, and the name of that tree remains lost to memory until some rose-lover puts your mind at rest. How many people have asked themselves the question—"How does a shepherd or a huntsman know all his sheep or hounds?" They look all very much alike, yet they are all different. True, now and then a black sheep or a larger hound stands out as a distinguishing mark to catch the eye, but they are not all black. Yet to tell the animals is not a hard task to anyone acquainted with these animals; and it is just the same with roses—the flowers, foliage, and growth are all different. Take a keen rosarian into a garden when the flowers are out, and he will name many a tree for you straight off. Take him into a garden in the depth of winter and you will be really astonished how easily he will name you some of your plants. How is this done? Roses, like human beings, differ remarkably in their several parts, and it is to try and help you to study and learn what to understand when you do see a tree in front of you that these short lines are written. Firstly, try and judge by the habit of growth, whether weakly or strong, branching or robust, to what class the tree belongs; also note the colour of the wood at that time of year. Tea roses and many of their children are very prone to have red wood and reddish thorns, but some have wood like a Hybrid Perpetual, such as Mme. Cusin. On the other hand, Hybrid Perpetuals are generally green in their wood, and as a general rule much stronger in growth. When you have separated the rose under notice into its supposed class, try and think have you one belonging to that class in your own collection at home. You may not, but if you grow a good many varieties you are nearly sure to. Take Killarney H. T. for instance—look at its lovely dark-red growths and foliage when fully developed; there are not many H. T.s so characteristic as the above. Some varieties of roses—notably those sent out by Messrs. Alex. Dickson some time ago—have most peculiar wood which is best noticed at pruning time. The wood appears to have been stained in a

grotesque fashion; yet, when cut into, it can be seen that it is not due to frost. Some readers may have noticed this mottling, especially well marked in pruning Bessie Brown this year. If you have not done so, go now to your trees and do so. Other varieties sent out by this firm which show this same characteristic are Alice Lindsell and Mrs. Grant. Some varieties can be told at a glance by their thorns. Some, such as Lady Moyra Beauclerc, being a mass of large thorns; others, like Ulrich Brunner, belonging to the Victor Verdier race, being thornless. Then, again, Her Majesty can be instantly told, especially on an old plant. The growth is tremendously strong, with powerful thorns, and has the habit of growing away steadily from one rod. Foliage helps us to diagnose a plant. Where do we get such foliage as on Merveille de Lyon or Her Majesty? Victor Hugo has most peculiar leaves both in shape and colour. Study a plant in full leaf. But, perhaps, the most curious points about foliage are to be found in both the Cochets in autumn—the leaves look as if they had been dusted with silver. I have never heard this phenomenon described. Look again at Mildred Grant's foliage. Is it that the giant bloom makes each leaf look so small and scattered from its neighbour along the leaf-stalk? But there is one rose which has a character unknown in any other variety, I mean Gustav Pigeaneau—the stipules of the leaf-stalk are lyre-shaped. In a Hybrid Tea one may often note both parents' qualities provided you know the parents and their qualities—the best example I can give you is Robert Scott. It is no use my burdening you too much with these peculiar qualities, but to any rose-grower who really will use his eyes to try and solve some such variations as I have pointed out above, some of nature's secrets may be revealed. To him who will try and solve such mysteries will find in his rose-garden something more wonderful than the flowers. If you do find anything noticeable do not be mean and keep it to yourself, let the whole world have it as another problem of nature solved.



DO ROOTS EXCRETE POISONOUS SUBSTANCES?—From a series of investigations carried out by the Department of Agriculture in India it is shown that the roots of certain crops excrete substances that are poisonous not only to themselves but to other crops. It is supposed that the toxic substance is of the nature of an alkaloid, and that really all plants excrete such poisonous substances from their roots. If this idea is true (and certain experiments carried on in the Bureau of Soils, Washington, point to the same conclusion) it helps to explain many facts in gardening, as, for example, the advantage of following shallow-rooted plants by deep-rooting ones.

HARDY ANNUALS FOR TOWN GARDENS.—The following kinds will be found useful:—Cornflowers, calliopsis, annual chrysanthemums, convolvulus (minor for beds, major for climbing), eschscholtzias, godetias, lavatera, linums, lupinus, nasturtiums (Tropæolum), night-scented and virginian stocks, poppies, sunflowers, and sweet sultan. Sow in clumps of from 1 to 3 feet wide in order to get striking colour effects. Sow somewhat thickly, and thin out before the seedlings get too big to seriously compete with one another.

May Notes.

By W. B. B.



HERE much reliance is placed on annuals a critical time in the flower garden, for its condition during the summer and autumn months will greatly depend on what is done and what is not done now, particularly in the matter of thinning out. Assuming that the necessary sowings have been made in April

and that the seedlings by this time are well above ground, this operation ought now to receive due attention. In far too many cases the rough and ready method with annuals is to sow them thickly in clumps or lines and to leave them afterwards to fare as best they can, without regard to the inevitable struggle that must ensue among crowds of seedlings requiring not only room for development above ground but a sufficiency of mineral salts in solution within reach of their roots. In such cases a state of starvation results, followed by stunted growth, a brief flowering period, and an early death. Most annuals, given sufficient room for development, will, unless they suffer from scarcity of water, continue to develop fresh flowering branches after the primary growths have passed that stage, particularly if care be taken to prevent the maturing of seed, which is with them the ambition of a lifetime. Seeing that the object of the cultivator is to have as great an abundance of blossom over as long a period as possible, he should do whatever may tend to foster this end. It is in his power to do so by removing the flower heads in the early stage of seed formation while the plant is still possessed with the zeal for life and before it has too definitely broken with everything save the instinct that makes for the perpetuation of the species. While this instinct is a well recognised feature in plants, and more particularly so in those of only annual duration, it should not be forgotten that in the presence of an abundance of food most plants will be found not unwilling to respond to the temptation of prolonging a pleasurable existence, and to avoid undue haste in making what might prove unnecessary sacrifice for the good of the race. It is well, however, in the process of thinning, not to proceed too rigorously at first, as worms and slugs claim also to have an interest in this work, and it not allowed their share in it may revenge themselves on those you had destined alone to survive. Allow these creatures, therefore, some share in the removal of superfluous seedlings till such time as the plantlets have developed their third or fourth pair of leaves, from which time forward the seedlings will be comparatively safe, and may be subjected to the last thinning process.

There are some classes of seedlings, poppies in particular, specially liable to be eaten off entirely by these creatures unless precautionary measures are taken. Sprinkling soot on the foliage when moist from

rain or dew, taking care to renew its application after showers, till the plants have reached three or four inches in height, may be found effective in most cases. The ravages of these creatures are most to be feared where there is convenient shelter close by, such as is afforded by spreading tufts of sub-shrubby perennials, like pinks, arabis, &c. Such clumps are often the sites of veritable cities of hungry vegetarians in the shape of snails, woodlice, &c., whence they sally forth in the dusk or in the darkness of the night to prey on your succulent seedlings. In such neighbourhood more drastic treatment becomes necessary, and the gardener must take the offensive, putting, if possible, the whole of the inhabitants to the sword.

It is still not too late to make sowings of the quicker growing annuals, and as better effect is obtained from masses of a distinct colour than from a mixture of colours, named varieties or well fixed types should be chosen. Among them might be included candytuft New Carmine, Rose Cardinal, and Giant Hyacinth-flowered, clarkia Salmon Queen, godetia Gloriosa, Crimson Glow, and Lady Satin Rose, *Leptogyne Stillmanni*, *Chrysanthemum Sibthorpi*, *C. coronarium*, double white and double sulphur, and the new hybrid chrysanthemums, Morning Star and Evening Star.

Where facilities for the raising of tender annuals are absent some of the more useful of these, as asters, ten-week stocks, petunias, *Phlox Drummondii*, and zinnias, single and double, should be procured from a nurseryman towards the end of the month, by which time they will have been sufficiently hardened off to be planted out without fear of loss from cutting winds or late frosts.

The foregoing remarks are concerned only with annuals and have reference chiefly to thinning. The intention was not to go beyond this, but it may be added that this month is the best time to sow wallflowers for next year's bloom. The varieties should include a good strain of Blood Red, Eastern Queen, and Cloth of Gold, to which may be added Primrose Dame, Ruby Gem, Vulcan and Golden Monarch.

The Reader

THE BOOK OF THE COTTAGE GARDEN. By Charles Thonger. London: John Lane Company (2s. 6d.).—This book, as explained by the author, is written for those who, while possessing country cottages, are in no sense cottagers. It is mainly concerned with the growing and artistic grouping of flowers in natural ways, although the second chapter is devoted to lawns and the last two chapters to the vegetable garden and orchard. It is written in the true spirit of gardening as we understand the term, and its perusal has given us real pleasure. Our author has a fine contempt for the "statuary and vases," the "varnished huts with windows of stained glass," the "rickety chairs with striped awning," the "tawdry Japanese umbrellas or portable hammocks" found in so many gardens, especially within the regions of suburbia. In the restful garden of the country home the "paths are moss-grown, innocent of the immaculate coatings of gravel dear to the owners of carriage drives and serpentine

walks. Roses and creepers drape themselves in natural ways on porch and eaves, unvisited by a watchful assistant with his bag of nails and cloth shreds. "Bedding out" is unknown; instead, the borders are filled with a brave company of hardy plants which greet the seasons as nature intended. As summer wanes, the ground is littered thick with fallen leaves and petals, crimson, amber, chestnut and gold. No one troubles to remove them; they drop to earth to nourish the plants which gave them life. Here in truth is realised more closely perhaps than elsewhere something of that subtle mystery without which the love of gardens could never have survived so long as it has done." In such a garden the number of varieties is strictly limited and the several kinds grouped in spreading patches, thereby producing bold colour masses. Flowers, rare or curious, find no place, as beauty most often results from the use of simple materials simply employed. Money, our author reminds us, is the least needed factor to the realisation of a delightful garden, and for this reason "the oldest of all the arts offers possibilities which in no way depend for their accomplishment upon wealth or station."

The hardy flower border, to which Chapter III. is devoted, is stated to be the simplest and by far the most effective arrangement of plants for small gardens. Not only does it permit of flowers being seen in their natural grace and beauty, but it is the most economical and least artificial of all schemes of culture. Full and clear directions are given for the preparation and planting of such a flower garden, and suitable subjects are suggested to the amateur of taste.

Roses are charmingly and simply dealt with. We are afraid that there is too much truth in what the author says about the influence of shovels upon the rose as a decorative plant. They have done much to spoil it. "Instead of valuing a rose as a peerless beautifier of garden scenes a vast number of people limit its associations to green boxes holding six or twelve 'distinct varieties'; to stuffy tents, to muslin frocks, military bands and all the wearying paraphernalia of fetes and flower shows."

There are two chapters—one on Garden Colour and the other on Fragrance—which will give more inspiration to the sympathetic reader than a whole library of ordinary garden literature. Enough has been said, however, to give at least some idea of the scope of this little book and of the spirit in which it is written. We cannot imagine anyone reading it through and failing to catch some of the enthusiasm of its author.

It is beautifully illustrated with 18 plates, one of which we are able to reproduce through the courtesy of the publisher. We strongly recommend the perusal of this book to our readers.



A CHARMING COTTAGE HOME WITH WALL BORDERS AND CLIMBERS.

[From "The Book of the Cottage Garden,"]

COTTAGE GARDENS. By Colonel R. Stapleton-Cotton. Birmingham: Cornish Bros., Ltd. (4d.).—This is a booklet of sixty pages giving practical hints on the management and cultivation of small gardens. It treats the subject in a simple, straightforward way, and is just the type of book that a cottager or allotment holder would most likely read, and from which he would get information of a right and helpful kind. The present is the second edition.

THE PRONUNCIATION OF PLANT NAMES.—*Gardeners' Chronicle*, Ltd. Price, one shilling.—This very useful little book on "The Pronunciation of Plant Names" is reprinted from the pages of the *Gardeners' Chronicle*. The book is sure to find favour with gardeners and others interested in the correct pronunciation of the names of garden plants. Usage rather than strict etymology has been followed by the compiler. It is issued in a very handy size and can be easily carried in the breast pocket for immediate reference. Every young gardener should possess a copy.

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Artificial Manures.

GARDENERS, as a rule, use too much — and sometimes far too much—farmyard manure. Its excessive use tends to promote an undesirable acidity in the soil which calls for the immediate application of lime as a corrective. A moderate use of such bulky organic material is good for crops, as it keeps close soils more open and makes light soils more firm, increases the water-holding power of all, and contributes to a greater or less extent all the manurial constituents required by crops. Considered, however, from the latter point of view only, farmyard manure contains really a very small quantity of plant food in proportion to its bulk. To start with, it contains over 80 per cent. of water, and of the remainder a very small percentage indeed can be used by the plants as food, perhaps about $\frac{1}{2}$ per cent. of nitrogen, $\frac{5}{10}$ per cent. of phosphoric acid, and about $\frac{1}{2}$ per cent. of potash, showing that the great value of farmyard manure lies not so much in its food-yielding power as in other properties associated with the physical rather than the chemical aspect of soils. It is clear, therefore, that if our only object is to supply our crops with food material, we can do it more easily, more cleanly, and more economically by making use of artificial manures. They have the further advantage of enabling us to apply one kind of manure alone, if in our judgment the soil is lacking in only one of the necessary constituents of plant food. And if we purchase on analysis we can moreover apply such constituent in any required quantity. So that the best method of manuring is that in which both kinds of manures are used—farmyard manure to improve the physical character of the soil and to supply an all-round diet to crops, and artificial to strengthen the supply of any ingredient or ingredients that the soil happens to be weak in or the particular crop specially demands in larger quantity.

The foregoing remarks are suggested by the

receipt of a little book on “Artificial Manures,” by Professor Percival of University College, Reading, in which the subject of the use of artificials is treated simply and scientifically, and in a way we do not remember having met before in any work on the subject. The author starts with first principles, giving reasons for the need of manures, the nature of the substances required by plants, and the general character of the different kinds of manures used by gardeners. This is followed by a chapter dealing with the kinds of manures in detail—“what they do, and when to apply them.” Taking the three most important manurial constituents—nitrogen, phosphoric acid, and potash—we find the following clear statements as to “what they do”:

(1) “*Nitrogenous Manures*.—All these manures encourage plants to make leaf, stem and root, and are, therefore, particularly useful to young crops which are just commencing to grow, and also to all crops which are cultivated for their succulent or fleshy leaves, stems and roots. They are especially beneficial to and improve the yield of asparagus, broccoli, beet, carrots, celery, cabbage, cauliflower, kale, lettuce, mangels, onions, parsnips, radishes, rhubarb, savoy, and turnips.

“Nitrogenous manures should be used very sparingly on peas, beans and tomatoes. None of them last very long in the soil, which is another reason why they should be used in small quantities and often.”

(2) “*Phosphatic Manures*.—Manures of this class have the opposite effect on plants to that produced by the nitrogenous kind.

“They check rank growth and encourage the production and setting of flowers, fruit and seeds. Plants grown with plenty of phosphates are stocky and sturdy, and you cannot go wrong in applying one or other of them to any kind of crop.

“Taken as a whole they improve the *quality* of vegetables, flower, or fruit more than any other class of manure on any land, and very few gardens or fields have ever had enough applied to them.

“They are of especial benefit to turnips, swedes, peas and beans, but no crop should be grown without being supplied with a phosphatic manure of some sort.”

(3) “*Potash Manures*.—These assist the plant both in the early stages when the leaves and stem are being formed and later when the flowers and fruit are setting.

“They are of great benefit to potatoes, peas, beans, beet, asparagus, carrots and turnips, and to plants grown for their flowers. They are of particular value to apples, gooseberries, vines and all other fruit trees.”

The rest of the book (one-half) is devoted to recipes giving the amount and kind of artificial manures to be used with different crops in the vegetable, fruit, and flower garden, in con-

* “Artificial Manures and How to Use Them in the Garden, Orchard and Allotment” By Professor John Percival, M.A. Published by the author, Northolt Avenue, Reading. Price one shilling.

junction with a dressing of dung applied every two or three years.

Professor Percival has placed gardeners under a debt of gratitude for providing them with such a handy little book, so full of information, so accurate, so lucid, and so cheap.

MR. F. W. HAMMOND, a well known fruit grower in Essex, writing in *The Garden*, draws attention to a destructive fungal disease of the gooseberry, causing, it is said, almost as much damage as the dreaded gooseberry mildew. The trouble is brought about by a species of *Botrytis* (*B. cinerea*), which attack the young shoots, and eventually kills them. A serious fact in connection with this disease is that the fungus is able to grow on "most garden plants and many kinds of weeds," so that once introduced it is most difficult to eradicate. We will treat the subject more fully next month.

A "Life of Philibert Commerson," the great naturalist, traveller, and collector of plants, has just been issued by John Murray. Commerson was born near the city of Lyons in 1727, and during his life exercised a great influence upon the study of botany and the art of gardening throughout the countries of Europe. He was a great traveller, and in his explorations in Mauritius, Madagascar, India, and China collected some 3,000 new species and 60 new genera of plants, a large number of which he himself described. He died in 1773.

LARGE works have been laid down at Carnlough, Co. Antrim, for the purpose of manufacturing sulphate of ammonia from peat. The process consists of passing a mixture of air and water vapour over the peat, kept at a low grade of heat in specially devised furnaces. Dr. Walterreeck, the inventor, in a paper read before the Royal Dublin Society, said that a yield of 5 per cent. of sulphate of ammonia on actual dry peat may be obtained, and that acetic acid and paraffin tar are also produced as secondary products. The ash left behind contains potash, lime, and phosphoric acid, and is saleable as a cheap fertiliser.

During last month the great international show of the year was held at Berlin under the auspices of the Prussian Horticultural Society. No such show has been attempted in Germany for the last 20 years, and apparently everything was done that was possible to do to make the show a success. The exhibition grounds covered about 2½ acres, and the show continued for a fortnight's time. *The Gardeners' Chronicle*, commenting on the exhibition, says—"Like most of the Continental shows the Berlin show is remarkable for the good taste evinced in the arrangement of the exhibits. In this respect, though not in the excellence of the individual classes, the Berlin show is superior to the exhibitions to which we are accustomed in this country. In Berlin each several exhibit contributes to the general harmony. There is but little need for stages since most of the plants are bedded out in natural groups. The pots for the most part are hidden. There are no obstructive labels, and any architectural features in the building that are considered inelegant are either draped with pleasing colours or covered with branches of spruce."

The Flowering Currants *Ribes*.

By J. W. BESANT, Glasnevin.

THE common name of Flowering Currant is usually applied only to *Ribes sanguineum* and its varieties, but, though on the whole it is perhaps the most showy species, there are others well worth growing. The genus is important to gardeners, containing as it does the gooseberry, the red and white currants, and the black currant.

While all the species will respond to good culture quite as readily as those grown in the fruit garden, very special conditions are not essential except perhaps for *R. speciosum*, a Californian species which succeeds best when grown against a sunny wall with sufficient moisture at the base to ensure satisfactory growth.

The flowers are commonly produced on shoots of the previous year, as well as on spurs, so that pruning should take the form of thinning out of old growths, as is done with *R. nigrum*, the black currant. Propagation, too, may be effected by means of cuttings prepared and treated in the same way as those of currants and gooseberries in the fruit garden.

The genus is now included in the natural order *Saxifragaceæ*, all the species being shrubs varying in height from 2 feet up to 6 or 8 feet; sometimes spiny as in the gooseberry, with leaves generally lobed and the flowers produced in few or many-flowered racemes.

Ribes alpinum, a European species said to be found wild in some parts of Britain, attains a height of about 4 feet, bears erect racemes of yellow flowers, followed in autumn by bright, red berries; leaves usually three-lobed and hairy.

R. alpinum pumilum, a dwarfier form, is a suitable shrub for the rock garden.

R. americanum, the wild black currant of America, is valuable for the beautiful purple bronze of the leaves in late autumn. The flowers are white and the leaves variously lobed and serrate.

R. aurcum, the Buffalo currant of N. W. America, is fairly common in gardens. Flowers yellow, leaves smooth and three-lobed, colouring a beautiful clear yellow in autumn. Height, 5 feet to 6 feet.

R. coccum, from North America, is a dwarf species bearing white flowers and having roundish, crenate leaves.

R. gordonianum, a hybrid between *R. sanguineum* and *R. aurum*, is intermediate in character, and produces freely racemes of yellowish red flowers.

R. gracile, a North American species bearing few flowered racemes of white flowers and having round, slightly lobed leaves and spiny branches, attains a height of 5 feet.

R. lacustre, a moisture-loving species from the woods and swamps of North America, has rather prickly branches, bearing cordate, deeply-cut leaves and drooping racemes of greenish flowers. Height about 4 feet.

R. sanguineum, the well-known flowering currant, is a native of California and N. W. America. It is too well known to need any description. The drooping racemes of rose-red flowers appearing in spring, with other early flowering shrubs like the Forsythias, are always welcome.

R. sanguineum albidum is an excellent variety bearing white flowers flushed with pink; a very fine shrub for a group in the shrub border.

R. sanguineum atrosanguineum, despite a rather unwieldy name, is a really good plant, bearing abundance of deep rose flowers, very effective in a mass.

R. sanguineum splendens is one of the finest early flowering shrubs in cultivation. The racemes will reach a length of 6 inches on well grown plants, with flowers as deep in colour as the previous variety.

R. speciosum (syn. *R. fuchsoides*), alluded to above, bears numerous clusters of deep red, tubular flowers, which are very effective in March and April. A plant growing against a south wall at Glasnevin has been a mass of flowers for a month or more. It can also be successfully grown on a north wall, but appears less happy as a shrub in the open.

R. villosum, from Chili, is quite hardy and evergreen. The leaves are very hairy and rather coriaceous. This species grows from 4 feet to 5 feet in height, and is a useful subject for the shrub border.

The above is but a selection of the more distinct species and varieties, and does not comprise nearly all the species available, many other interesting sorts being offered by nurserymen.

Current Topics.

By E. KNOWLDIN, F.R.H.S., Secretary, Royal Horticultural Society of Ireland.

THIS passing spring, surely, should stand out in the annals of high art cultivation, and what though the latest triumph of mind over matter be not Irish we can—we must—join in the jubilation and shout "Hosanna" to Burbank. "Burbank has gone beyond nature." (That's good travelling.) "Burbank has given to the world a new botany." (Much wanted, too.) "The Burbank potato has conquered the earth," and "enough Burbank potatoes have been grown to pave a street 200 feet wide entirely round the Equator." "The Equator?" Humph! We're out of it again. The *San Francisco Weekly Examiner* is our informant, and surely it is great news—news with a gladness about it that our own prosaic Press must envy. What it's all about we don't exactly know, but that doesn't matter. Turning to more tangible, if tamer things, we note the new form of copper and lime, the "Woburn Bordeaux Paste," for eliminating the grievances of our troublesome old tuber. Mr. Pickering praises it, and the name of Woburn, if it does sometimes shake our old theories within a shade of shattering, is at least a guarantee of good faith. It is made by Walter Voss and Co., Ltd., and is a uniform preparation of the famous fungicide of the "always ready, keep it handy" kind, and should be a boon to small growers, tall growers, all growers in fact. Fifteen pounds of the paste make 100 gallons of the solution, approximately sufficient to spray an acre. And it comes opportune, as a poisonous compound, which presumably it is within the meaning of the Act, for one can now get it with one's seeds and sundries from one's seedsman, and this without prejudice to the provider of our pills and potions. Yes! My Lords in Council have at last accorded this privilege to Irish cultivators, for whom, in petition parlance, we are ever bound to pray. Thanks, my Lords, for the next. Now, if the Department will only feel to the full its responsibilities, how nice things are going to be until the millenium—we mean the Burbank—arrives. Every potato plot in Ireland will be sprayed, without a doubt, when the plotters are shown what to do, how to do it, and, of course, it is done for them by the Department's experts.

"I often wonder why the Englishman has need to purchase from Spain, Egypt, Bosnia, France, and other distant places, onions that he could grow at home," "wonders" a contemporary. So do we. And we must be in a pretty pickle if the statement that there are no English onions in the market except bulbs for pickling is correct. However, the Englishman must have his "ing'uns," and why shouldn't we grow him a few, and a few over, too, for ourselves? Is the big prize bulb responsible for all this? That, at least, is the question which crops up when our greengrocer unblushingly asks threepence a pound for the common culinary kind. Threepence per pound! Ye gods! £36 per ton! What his conscience would allow him to demand for a pound or a pound and a half of prime cut off an exhibition bulb it is hard to say, especially as the big bulb, having accomplished its main object in life—viz., being talked

about—suffers from a flabby heart, and, like the passerover, must be eaten in a hurry.

Another blow to the big bloom, and the "mum" grower grieves over departed glories. The latest is seeds; no more cuttings before Christmas, or after, or any other time. Sow the seeds in heat, in February, and so on, and so forth; grow 'em on for a decorative display, equalling the present system, and that, presumably, is all one wants nowadays, and—well, "mum's" the word.

Be in time. The black spruce, *Abies nigra*, or *Picea nigra*, as we are now told to call it—and confound this confusion of names—is said to be the best wood for aeroplanes, and good plantations put in now should be nicely timed for our fleets of the future. True, we live in an age of change, and gardening changes too in its own quiet way. We wonder as we review the past what will be the next of fashion's fancies. Who that knows or has known the florist's auricula has not heard of Ben Simonite, working cutler, of Sheffield, amateur florist in its true sense, and amateur as big as it can be printed. Imagine a strip on a bleak hillside open to all the winds that blow, flavoured by the tasty atmosphere of the black country; this was Ben's garden. Imagine, too, Ben bearing on his back bags of soil for two miles to make it as pleasant as possible for his pets; this was Ben's love for his plants. Good old Ben! He had sixty years of it, for, commencing at the age of fourteen, he recently finished his loving labours at seventy-four; known far and wide, honoured and respected by all who knew him. Of such is the amateur in the truest sense, and of such is the gardening world the better for, and his name goes down in the annals of florists' flowers for all time.

A Note from Glasnevin.

Primula Marginata.

PPRIMULA MARGINATA is one of the early flowering species of this interesting group of plants. It is a native of the Alps of Dauphiny and Piedmont, and has been in cultivation for many years. The flowers are rosy lilac, borne on strong, short stems in April and May, but the chief attraction of the plant lies in the edges of the leaves. These leaves are dark green, rather of the auricula type, and the edges, which are strongly serrate, are covered with a golden meal, which gives the plant a remarkable appearance even when out of flower. Like most of this genus, it does well in shade. The plant is perfectly hardy, but if grown as a pot plant in a cool house its mealy tendency is more pronounced. Two new forms have been sent out by Messrs. J. Backhouse & Sons, of York—*Primula marginata alba*, a pure white form, but which also resembles the true species by having the mealy edges to the leaves; *Primula marginata Linda Pope*. This is a distinct improvement on *P. marginata*, as the flowers are a good clear lilac and of good substance. These two forms will interest collectors of primulas, and will be useful additions.

R. M. POLLOCK.

Poppies.

FOR the production of brilliant colour in the garden few plants can excel the different species of *Papaver*, as the genus of the poppy is named. Indeed, they are so very showy that they ought always to be sown in patches among other plants in the border, as their striking colours require a sober background of greenery to bring out by contrast their dazzling beauty. The genus is made up of about a dozen species, of which at least four might well be grown in all gardens. These are the Siberian perennial poppy, the tulip poppy, the Shirley poppy, and the opium poppy. All poppies have a milky juice, which in the opium poppy contains the narcotic drug which gives it its distinctive name, and from which laudanum and morphia are derived. The juice is obtained from gashes made in the unripe seed vessel.

Within the infant rind of this small flower
Poison hath residence and medicine power.

The plants are raised from seed sown either in autumn or in spring. In our own experience the autumn-sown plants are superior to the spring-sown, if sown early enough to give time for the establishment of sturdy little plants before the frosts set in. As they do not transplant well they ought to be sown on the spot where you want them to bloom. Care should be taken to thin the seedlings, else drawn up, lanky specimens will be the result.

The Siberian perennial poppy (*P. croceum*) grows to between 9 and 18 inches high, and bears large, orange-yellow flowers, the petals of which are somewhat wavy along the margins. There is a double-flowered variety of this species.

The tulip poppy (*P. glaucum*) is an eastern species, and grows to a height of between one and two feet. The flowers of this species are very handsome, the two outer petals being larger and of a deep scarlet-red colour, shaded with orange, while the two inner are smaller, of the same colour, but forming a cup within which lies a great mass of violet-black anthers.

The Shirley poppy is an exquisite variant of the common corn poppy of our fields. The colour varies, but is always charming. To get the best effects the seeds should be sown thinly, and the seedlings afterwards thinned to about six or eight inches apart. It takes some courage and a great faith to thin properly.

The opium poppy, *P. somniferum*, is a very handsome annual, three to four feet high. The flowers may be white, rose or lilac, often striped, and each petal bears at its base a black blotch of colour.

There are many hybrids and varieties of poppies now in cultivation.



The Month's Work.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens,
Loughgall, Co. Armagh.

STRAWBERRIES.—The ground must now get a good deep hoeing between these plants; it should be done when the ground is dry and all weeds removed. When this has been done the whole ought to have a thorough dressing of freshly-slaked lime or lime and soot mixed together. The leaves of the plants must be lifted and underneath be dusted, for it is here slugs are found in quantities. If this be done many of them will be destroyed.

Considerable damage is done year by year to ripe strawberries by slugs, and growers should endeavour to get rid of them as far as possible. If this be neglected now the lime and soot cannot be applied later, as in doing so when fruit is formed they get patches of the dressing on them, which frequently remain on them altogether, and are useless in consequence.

Before the trusses of bloom get too far advanced, or better, as they are seen to form, a good mulch of stable litter should be applied, and ought to consist chiefly of straw (not hay). If applied now the rains will have washed the straw by the time fruit is ripe, and will then preserve them from getting soiled during heavy rains. The mulch has many more advantages; besides others, it helps to keep down weeds, no small advantage, besides conserving moisture. No fruit suffers more during spells of drought, and if such occurs during the time fruit are swelling water must not be withheld; they will benefit greatly by several good drenchings.

Deep cultivation, with liberal quantities of farmyard manure and after-surface cultivation and good mulchings, is the proper course to follow in the culture of this fruit, and if such be done water will scarcely be required in any but the driest of soils. However, as already stated, during the swelling period of fruit if drought is experienced watering will be attended with considerable success.

PEACH TREES out of doors on walls will now require almost daily attention. Disbudding must be systematically done. Remove all shoots growing outwards or towards the wall; also thin those on the sides, so that no more may be left than that required to fill vacancies, and replace shoots which are to be removed next autumn. As the fruits are seen to swell thinning may be commenced. This cannot be done all at once, as it sometimes happens that the fruits drop off through a check or from other causes. Besides, to thin all at once would in itself cause a check to the tree. See that they do not want for water at the root, and syringe after hot, sunny days about five o'clock if frost is not expected. If the dreaded leaf-curl should appear pick off all leaves showing the least sign of it and burn them, and if possible protect the trees from cold winds.

RASPBERRIES.—In established plantations these will by now have thrown up quantities of young canes, many more than are required for fruiting next year. All these surplus canes may now be pulled up carefully, leaving those nearest the old stools, and only sufficient

for next year's supply. These, if allowed to remain, exhaust the soil, and afterwards smother the ripening fruit and prevent the sun and air penetrating to ripen the canes for next season. A mulch of good fat manure applied to these would be of great benefit.

GOOSEBERRY AND CURRANT SAWFLY.—This insect often does considerable damage to both gooseberry and currant bushes. Where it has made its appearance last year, unless it has been destroyed, it will now be back again. As soon as they make their appearance they must be attacked, or soon nothing will be left but naked bushes. They devour the leaves in a very short time. Swift's arsenate of lead is strongly recommended for their destruction. This is a poison, and is sprayed on the leaves; as the caterpillars feed they eat the poison, and so become defunct. I have not personally tried this preparation, but believe it to be everything that is claimed for it. Paraffin emulsion or quassia extract and soft soap will kill them, or the bushes when damp may be dusted with freshly slaked lime or soot, which will do away with them.

GENERAL REMARKS.—Enemies will during the month make their appearance in many quarters. Keep a sharp look out for such, and attack them early, or they will do untold damage. Prevention is at all times better than cure. Therefore keep the syringe or engine going to keep down filth. A weak insecticide, such as quassia or paraffin emulsion, will do wonders in warding off attacks of greenfly or other aphids which do such a lot of damage to all sorts of fruit trees and bushes. Keep down weeds, they will now be fast making headway. Get them under at once if you are to keep them under during the year. Mulch any fruit trees not already done. Fruit trees are gross feeders, especially when carrying a crop, and anything in the nature of a stimulant will be gratefully received and acknowledged later on. Therefore if the mulch be of good quality manure it will be all the better, but even a mulch of grass or similar material will prevent the soil getting very dry, and be of benefit. It is too early in the year to form an idea of what the fruit crops will be eventually, but the prospects are very bright so far. Pears and plums are showing well, and apples are showing an enormous amount of fruit blossoms. If we only get a fair spell of weather when the setting period comes, and insect foes leave them alone, we may anticipate a very full crop, but there are many buts before this can be pronounced upon with safety.

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

GENERAL WORK.—During the latter part of this month more bedding plants will be put out than in any other month of the year. The number of beautiful plants which have been furnished to the flower gardener of the present day and the experience in making proper selections for various soils or climates give us considerable advantage over those of a past age. All flower garden plants, whether propagated in autumn or spring, should be well hardened off in order to

minimise the check of planting into the beds. See that starvation is not substituted for "hardening off." Too often plants in small pots are exposed to the full blaze of the sun and cold, drying winds with the view of making them hardy. With such treatment they become stunted and wiry; the tissues are dried up, and when ultimately planted a long time passes before they make a start into healthy growth. Instead of exposing small pots to the full sun or wind for weeks shade them during the hottest part of the day, or else turn the plants into nursery beds of light soil, which will induce plenty of roots and a healthy appearance by the middle or end of May. Where there is not convenience for the home propagation and culture of the usual bedding-out plants, such can be purchased very cheaply from the leading nurserymen, and shading of the plants from bright sun should be continued for ten days after being set out.

PLANTING OUT.—Provided the beds and borders have been previously manured and dug, they should now be forked over and well pulverised a few days before it is intended to begin planting. The levelling and raking of beds should follow. To prevent confusion and delay a working plan of every bed should be previously prepared. In a geometrical flower garden consideration must be given to the question of harmony and contrast in arranging the colours, for the disposition of flowering plants must be looked upon as the crowning touch of dress to a flower garden. Some gardens are paltry in themselves and often placed in the worse possible positions for the development of an artistic effect. A promiscuous collection of herbaceous and other flowering plants should never be planted in any number of the beds which form part of a geometric group, with the remainder of the beds planted in distinct masses of colour. In planting groups of beds the mixing of different colours in one bed is not to be recommended. Small beds may be planted with one colour. Beds exceeding twelve feet in diameter should be planted with two or more in order to relieve a heavy mass of colour and place the strongest colour at the margin of the bed. In planting long borders avoid a common practice of cutting them up into fantastic little beds. For effect an entire surface in flowers, with relieving, graceful specimen plants, is preferable, and the simpler the design, if properly balanced, the better. Of course a yearly change of design and arrangement is necessary to sustain the interest. To those with limited experience I would caution to try only those plants that the conditions of your garden or grounds will grow well. All others will be vexatious and a useless expenditure of time, money, and strength. An expert can assimilate conditions and give suitable requirements in substitution, but he knows how to use them and when not to try the impossible. There are plants, like some people, that you cannot provide with an agreeable environment. You have to leave them alone and agree with the poet when he says:

"Full many a flower is born to blush unseen,
And waste its sweetness on the desert air."

Individual taste and experiments can be tried in planting for effect. For instance, I saw in a lady's garden last year a long border planted entirely with the lovely blue *Salvia patens*, relieved with tall plants of *Hydrangea paniculata*, and for an edging *Matricaria*

Golden Ball; and a fine border it made, and somewhat uncommon.

TUBEROUS BEGONIAS.—For bedding purposes begonias look best in good groups of identical shades of colour. There are many well-known strains that are favoured for erect habit and some particular shade of colour, but I have not seen much to beat the old variety *Worthiana* for quickly covering a bed and standing rain well. In the West of Ireland, where they seldom suffer from drought, this variety does remarkably well, and is largely planted with fine effect in a sunk geometrical garden at Lough Cutra Castle, near Gort. The colour is bright scarlet, the growth stiff, and supports itself without the aid of stakes. To increase the stock of bedding begonias cut up the tubers like potatoes when the young growth has started, and box off and keep in heat till good plants are formed. After planting out, the surface of the beds may be mulched with clean-sifted leaf-mould or manure, or low-growing plants like *Alyssum maritimum* may be used to keep the ground cool and moist, as dryness is injurious. The first week of June is quite early enough to risk planting out begonias. The soil most suitable is loam, leaf-mould, and a good portion of cow manure worked deeply into the bed.

PELARGONIUMS. Where these are planted out the beds are generally far too rich. If those who are situated in wet districts were to elevate their flower beds well and use poor soil there would be fewer complaints of pelargoniums being so scant of bloom. By doing this and using old plants the tendency to bloom would be much increased. That fine variety, *Paul Crampel*, is only seen at its best after it has attained its second year of growth. The tricolour and bronze-leaf varieties also show their colour more intense where the ground is dry and not over rich.

WATERING.—"How often should I water my plants?" is a question frequently addressed to a gardener by visitors anxious to pick up information. The rule is, water so as to reach every fibre of the plants' roots, and then wait until a similar repetition is necessary. A plant may want watering twice a day in summer and perhaps only twice a month in dull weather in winter. From the end of September to the middle of May let the temperature of the water used be from 5 to 10 degrees higher than the minimum temperature of the house. From the periods mentioned watering should be performed in the morning. Thus the stimulus of sun heat meets the plants when they have received their refresher, the extra moisture is parted with before the evening comes, and there is not that rapid cooling of the soil by evaporation during the night. In the summer we reverse the time of watering, and perform the operation during the afternoon and evening. By watering in a bright morning the moisture is extracted rapidly from the soil, as well as through the foliage; consequently the plant does not receive the full benefit of the watering, and soon requires a fresh supply. In the evening evaporation is reduced to a minimum, the plant has full time to absorb and refresh itself, and thus is more able to stand the heat of the following day. Gardeners, when watering, have a well-known habit of rapping the pots with the knuckles of the hand or

with a small wooden mallet. If the pots ring clear and hollow the plant is dry. If the sound is dull and heavy no water is required. Manure water should be applied, little and often, weak and clear, and only when the plant is in vigorous growth.

VASES.—Where vases are used for the embellishment of the garden see that the plants are not dumpy and stiff in outline. Elegant and suitable things are hardy palms, yuccas, dracaenas, fuchsias, &c., and round the edges plant lobelias, ivy-leaved pelargoniums, and *P. Mangles' variegata*, petunias, *Phlox Drummondii*, verbenas, and the dwarf-growing tropaeolums.

CINERARIA STELLATA.—Few plants are capable of producing such an effective display as this charming greenhouse annual. A recent visit to The Elms, Blackrock, was made to see a useful lot that Mr. Longmuir had grown, and which made a capital display arranged in a mass in one of the greenhouses. They were sown on the 13th May last year, and grown and flowered in seven and eight inch pots. Cinerarias like a cool, shaded position all summer, and are impatient of heat at any time. Sufficient to keep out frost is all that is required, and a mixture of three-parts good loam, with the addition of leaf-mould and sharp sand, will grow them to perfection. Manure water should not be given till the flower spikes begin to appear, except an occasional watering of soot water.

HOEING.—During the recent showery weather weeds have quickly made their appearance, and plants soon lose a healthy colour where the ground is caked and hard. Use every available opportunity to run the hoe over the ground to break up the surface, and this also serves to keep the weeds in check. May is one of the busiest months, and time is very precious to the gardener, but time spent with the hoe in May will be abundantly saved in much laborious work in the latter months of the year.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

IT must be remembered that, rapidly as crops all this season grow, the growth of weeds is more vigorous still. Slugs also become more numerous and troublesome. In moist weather now they claim special attention. Hunting them by lamp or candle-light is not too troublesome, considering how effective it is. Weeds must not be allowed to compete at all with garden crops, but ought to be duly prevented. Onions, carrots, parsnips, &c., will be advanced enough to have the hoe lightly run between the lines. The rapid growth will also accelerate the struggle for existence between seedling plants, therefore undue delay in thinning must be avoided. Round spinach, onions, parsnips, salsify and beet may be partly thinned when big enough to handle. It is risky to thin to the final distances at once, as the accidents from the attacks of vermin, as slugs, turnip beetle, onion fly, &c., cannot be calculated for. In thinning, choose a time when the soil is moist. Misses of onions, beet and salsify may be made good in showery weather. Even when safe over the attacks of turnip "fly," early-sown

turnips are uncertain as regards root formation, many often run to seed. On this account thin sparingly until starters show. Carrots can be used while quite young, and may be left at the first thinning about two inches apart.

GENERAL WORK.—Sow Yellow Malta and Snowball turnips for an early autumn supply. Attend to potatoes by reducing the soil to a fine state. To prevent the effect of frost earth over the tops as they rise. If dry weather prevails the ravages of "fly" on turnips and all the seedlings of the Brassica tribe must be looked for. Dust over beds of these with a mixture of soot and lime in the early mornings. This will also prove disappointing to slugs. About the middle of the month make a sowing of spring broccoli, cabbage, colewort, kales and dwarf savoy. Plant forward celery in trenches, about one foot apart for ordinary-sized heads. Lift the plants carefully with balls of soil attached to the roots, make firm in planting, and water immediately. Continue to prick off celery for late crops. If necessary attend to the watering of first early peas, lettuce and cauliflower. In watering, let it be thoroughly done, as sprinkling is worse than useless, only caking the ground and encouraging the action of surface-roots, to be soon destroyed again, thus checking, more than assisting, growth. Towards the end of the month plant out early Brussels sprouts and leeks, and also cauliflowers, and make a sowing of horn-carrots to keep up a supply of tender roots. Sow lettuce in drills where they are intended to remain, as transplanting these is troublesome in dry, warm weather. If the soil is dry at sowing time water before sowing. For lettuce the ground must now be well enriched with decomposed farmyard manure, and slugs vigilantly guarded against. Continue to sow turnips, radish, mustard and cress, and make a small first sowing of endive. Remove the coverings of ashes from seakale, and where these plants have become elevated above the level of the surface of the ground—from neglecting to remove the coverings—cut the roots at the level of the ground and plant the portions cut off to increase stock. As the plants grow, thin the buds on each. Prick off into nursery beds broccoli, savoy, cabbage, &c., as they become fit to handle, so as to make sturdy plants for later planting. Prepare all vacant ground for these by trenching and afterwards digging in a dressing of heavy dung. Make a sowing of broad beans. Plant out vegetable marrows and ridge cucumbers from the middle to the end of month, according to the strength of the plants and the temporary shelter that can be afforded to them. A barrowload or two of fermenting material sunk in the ground will soon start either plants or seeds sown where they are to remain. It is well worth while making some effort to have these started early enough.

BEEF.—If not yet done sow at once. Beet is best suited in deeply-dug, friable soil, moderately rich from the manure applied for a previous crop. Globe beet is much earlier and can be grown in closer order than the long kinds. Lines twelve inches asunder with six inches between the plants will be found ample. The long varieties will be better with about eighteen inches between the lines and eight inches from plant to plant. A good, long variety is Cheltenham Green Top. Thin the crop early, and keep free from weeds.

FRENCH BEANS.—French beans grow freely in a sunny aspect, in light, rich soil. The rows may be two feet apart and the seed may be dropped about three inches apart, later on every second plant to be pulled out or transplanted. Canadian Wonder is a grand variety for general cultivation. To keep up a regular supply successional sowings must be made. Climbing French beans are well worthy of a place where any of the tribe are grown, having the good qualities of the dwarf varieties as well as being early and continuous to bear. Where space is limited and stakes are procurable they are a distinct acquisition. The Wax-pod or Golden Butter beans also deserve to be cultivated.

SCARLET RUNNERS.—Make a first sowing of these in the open during the first week of the month. Allow six or more feet between the lines, with six or seven inches from plant to plant. This crop requires rich soil, deeply worked and manured. Where very high stakes cannot be had runner beans may be pinched to any required height. For seed use a good selection of the Champion Scarlet variety.

TOMATOES.—Tomatoes for outside ought to be hardened off for some time previous to planting. If plants are strong and the weather favourable, and if temporary shelter, as old sashes, &c., can be afforded them, these may be put out against walls with a southern aspect about the twentieth (20th) of the month. The soil ought to be moderately enriched with light manure, as an old hotbed, and a dressing of superphosphate is also very helpful to fruit formation. Make the plants firm when planting, leaving a distance of about eighteen inches between the plants. The stronger the plants are and the earlier when started in permanent quarters, the more profitable will outdoor tomatoes be, but it is useless to put out weak plants too early, or any plants, if some temporary shelter cannot be given them.

PEAS.—It is very important to keep up a constant succession of peas. For the later supplies special preparation must be made, as after the turn of the season their growth is not vigorous, especially under careless cultivation. For the late crops sunken trenches ought to be prepared, using a liberal supply of decomposed farmyard manure, and thoroughly mixing this with the surface soil. The sides of this trench should gradually slope from either side to about six inches below the surface level to the centre where the seeds are sown. Sow Autocrat, British Queen, or Gladstone, shedding the seeds thinly and covering with about two and a-half inches of soil. When the pods are swelling through waterings with liquid manure is one of the secrets of having good late peas.

LIQUID MANURE.—The time was when gardeners had to depend mostly on liquid manure to grow choice and prize-taking vegetables. At present there seems to be less care taken to have a handy supply of this most valuable aid for the kitchen garden. In many cases there is a great waste of plant food in the loss of the urine of farm animals. Sometimes people mix a little solid manure with water, and fancy that this is equal to any form of liquid feeding. This is a mistake.

The judicious use of the urine of farm animals, decomposed and diluted, is of the greatest assistance in the cultivation of most of the kitchen garden crops, though this, like many a good thing, can be abused.

The Herbaceous Border.

By FRANK HUDSON.

AS soon as dahlia tubers have made some growth move them into a cool frame to harden off. If seeds of annuals were not sown last month sow them at once. Stake sweet peas before the plants get too tall. Mark all daffodils and narcissi if it is intended to lift them later on for division. As soon as polyanthus, double daisies and hybrid primroses have done flowering lift them and divide the roots; plant again in the border or into a nursery bed.

Give stocks and asters plenty of light and air. At the end of the month sow seeds of biennials, such as wallflower, Canterbury Bell, hollyhock, pansy, Sweet William, silene, Brompton Stock, Forget-me-Not, antirrhinum; also sow seeds of pentstemon, viola, polyanthus, hybrid primrose, aubretia, arabis, alpina, *Allysum saxatile*, foxglove, aquilegia, anemone, *Bellis perennis* (double daisy), *Campanula pyramidalis*, auricula, gaulardia, delphinium, and carnation. These can be planted out in the border next October for spring and summer display. Keep the Dutch hoe working.

Bees.

By T. MAGUIRE, The Orchard, Enniskillen.

THIS month should see all hives spring-cleaned and painted, queens clipped, supplies of foundation, sections, &c., ready for the season, spare hives prepared for eventualities, and the apiary in general put in shape. It adds greatly to the pleasure in bee keeping to have the hives neatly set out in appropriate positions on flags or concrete blocks. The latter are easily made—four boards about 30 inches by 4 are put together like a bottomless box and set perfectly level in position. Fill in with rough stones, and pour in cement—one to three is a good proportion. Fix a piece of bent wire in the concrete at each side of the hive, with a loop to take the rope for tying down in winter. Smooth the top with a float, and when set remove the boards and smooth the edges. This makes an ideal stand—clean, dry, and cool. If there is a row of hives, climbing or standard roses, or tall growing flowers planted between them, will give a very pleasing effect.

Feeding must now be attended to. One quart of water to three pounds of cane sugar, and four drops of izar for disinfecting purposes, makes the best spring syrup. Bring to a boil, and feed in the evening, about half-a-pint for the night. Weak stocks will want feeding to stimulate them, and strong stocks, unless honey is coming in plentifully, will require it even more. The great point is to keep the queens laying right through this month, for it is the bees bred in May that

gather the most of the harvest. If the stores become scarce and the weather be cold or wet, the queens will stop laying, and once they stop it is not so easy to get them to begin again. Even if the hives are well supplied with stores it pays to feed in May. The sugar will be sealed in the brood-nest, and when the honey comes in it will go upstairs at once. Of course if doubling for extraction be intended it will not do to have the combs filled with sugar, but for comb-honey feeding in May will pay whether it be actually required or not. Keep an eye on the brood-combs to see if they contain plenty of pollen. If, not, put a few spoonfuls of pea-flour into the comb near the brood, for no breeding can go on without pollen or its equivalent.

It is very important during the early breeding season to keep the hives well wrapped up. Warmth is absolutely necessary for the young larvae, and if the brood-chamber be cold larger numbers of bees must cluster to keep the brood warm, and, necessarily, fewer numbers will be available for gathering purposes. Some bee-keepers contract the entrance once breeding begins, but I do not think it necessary.

Clipping queens is a general practice nowadays. It is more easily performed before the bees become too numerous. A warm day should be chosen, and great care exercised not to crush the abdomen of the queen. The usual way is, first, to catch her by the wings with the right hand, then with the left finger and thumb to catch the head and thorax, when the wings can be easily removed with a small, sharp scissors. Never allow the queen to drop any distance. These clipped queens will require some looking after when the swarming season arrives, but with a little care the practice of clipping saves a great deal of worry with swarms.

Those afflicted with foul brood should make every effort to get their diseased stocks up to swarming point as soon as possible, so as to be able to get them cured during swarming time by the "shook-swarm" or "starvation" method. In view of the legislation on foul brood it behoves everyone with diseased bees to see to them carefully. If the proper remedies are applied thoroughly and vigorously there is no reason why the pest should not be stamped out.

Notes.

ONION CULTURE.—From time to time in these pages attention has been drawn to the profitable return of a well-grown onion crop. Writers in recent numbers of the *Gardeners' Chronicle* have been calling attention to the same fact. It seems strange that even in rural districts in a country so well adapted to onion growing as our own that consumers of this wholesome vegetable should be so dependent upon over-sea supplies. It is, without doubt, a most profitable crop, and one that might be easily grown by the small holder or cottager. Under right management about 3 bushels may be raised from one rod, and this yield ought to give a good profit to the grower. Marketing produce is always a great difficulty with small holders, but co-operation for this purpose might surely overcome it. The organisation of districts so that each would act as one commercial unit in the market is obviously what is wanted

before anything really effective can be done in this connection by small cultivation.

CHINESE ARTICHOKES (*Stachys tuberosa*), although introduced to our gardens twenty odd years ago, have made little advance in popularity during that time. Yet properly cooked these little tubers should form a welcome variety to our vegetable foods. Their culture is simple. They love a light soil enriched with well-decayed manure or leaf-mould. The tubers may be set in deep drills a foot apart each way.

MANURING OF PLANTS IN POTS.—In most cases plants growing in pots are liable to suffer for lack of sufficient nitrogen unless it is artificially applied. This follows from the fact that there is comparatively little soil available to the roots, that nitrates are never abundant in a soil, and that these being soluble are readily removed by repeated waterings. From experiments carried on at the National School of Horticulture, Versailles, it would appear as if all plants grown in pots are benefited by occasional small doses of nitrate of soda. But the doses must really be small, and with some kinds of plants very small. The average amount works out to about 7½ grains of nitrate for pots under 4½ inches, 15 to 30 grains for pots under 6½ inches, and about 60 grains for 8 inch pots.

MANURING ALPINES.—It is a common belief that Alpine plants do not require manure, but the belief is not founded on experimental evidence. It is true that the manuring must be done with care and with a knowledge of the special requirements of each group. Quite a number have a great distaste for lime, while others (*Campnula pusilla* for example) are greatly benefited by lime applied in the form of bone meal. According to Mr. S. Arnoll, a good general manure for Alpines is one composed of 80 gallons of water, in which are dissolved 90 grains of nitrate of lime, 90 grains of sulphate of magnesia, and 90 grains of nitrate of potash. This solution is watered in once a year in the summer time. Dry cow manure, pulverised fine and scattered among the plants in spring, is another and excellent way of supplying nutriment to Alpines.

HYDRANGIA is a handsome shrub, especially *H. paniculata*, variety grandiflora. It grows to a height of four or five feet, and bears large clusters of creamy-white blossoms in August. To get the best results the previous year's shoots should be pruned back in February to within two or three buds of the base, any weak shoots produced being afterwards removed. During the summer an occasional watering with weak liquid manure will be helpful, as it is then that the flower buds are being developed.

THE National Sweet Pea Society has issued an official catalogue of Sweet Pea Names (1909), which may be obtained from the secretary, Mr. Chas. H. Curtis, Adelaide Road, Brentford, Middlesex. The price of the booklet is sixpence.

THE GARDEN IN SUMMER.—We have received a copy of Henry's list of plants for summer bedding, greenhouse, &c. It also includes lists of rock plants and plants suitable for the herbaceous border raised at the Pembroke Nurseries, Carlou.

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Readers of "Irish Gardening" are asked to kindly introduce the paper to any of their friends interested in plants and gardening, and to suggest that the commencement of a new volume is a good time to become a subscriber.

The present volume (vol. iv.) began with the January number, and all the numbers for this year can be supplied to new subscribers.

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Contents

	PAGE		PAGE
Thuja Hedges	81	Parasitic Rose-Canker (with Illustration)	90
The Making of our Home (with Illustration)	82	The Month's Work—	
Hints to Exhibitors (I.-IV.)	84	Flower Garden	91
The Alpine Garden in May (with Illustration)	87	Fruit Grounds	94
Soil Hygiene	88	Kitchen Garden	94
Current Topics	89	Herbaceous Border	96
Notes from Glasnevin	90	Bees	96
		Bedding in the People's Gardens, Phoenix Park, Dublin (full page illustration)	93

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2	<i>Out of Print.</i>	52	Flax Experiments.
3	<i>Out of Print.</i>	53	The Construction of a Cowhouse
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock (or Preshaugh) Spraying	56	Cultivation of the Root Crop.
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8	Timothy Meadows.	58	Sprouting Seed Potatoes.
9	The Turnip Fly.	59	Seed Testing Station for Ireland.
10	Wireworms.	60	The Packing of Butter.
11	Prevention of White Scour in Calves.	61	Field Experiments—Wheat.
12	<i>Out of Print.</i>	62	Plans for Creamery Buildings.
13	Contagious Abortion in Cattle.	63	"Redwater" or "Blood Murrain" in Cattle.
14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act Regulations, 1907.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
17	The Use and Purchase of Manures.	67	Forestry: Trees for Poles and Timber.
18	Swine Fever.	68	Forestry: Trees for Shelter and Ornament.
19	Early Potato Growing.	69	The Prevention of Tuberculosis in Cattle.
20	Calf Rearing.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
21	Diseases of Poultry—Gapes.	71	Forestry: The Management of Plantations.
22	Basic Slag.	72	Forestry: Felling and Selling Timber.
23	Dishorning Calves.	73	The Planting and Management of Hedges.
24	Care and Treatment of Premium Bulls.	74	Some Common Parasites of the Sheep.
25	Fowl Cholera.	75	Barley Sowing.
26	Winter Fattening of Cattle.	76	American Gooseberry Mildew.
27	Breeding and Feeding of Pigs.	77	Scour and Wasting in Young Cattle.
28	Blackleg, Black Quarter, or Blue Quarter.	78	Home Buttermaking.
29	Flax Seed.	79	The Cultivation of Small Fruits
30	Poultry Parasites—Fleas, Mites, and Lice.	80	Catch Crops.
31	Winter Egg Production.	81	Potato Culture on Small Farms.
32	Rearing and Fattening of Turkeys.	82	Cultivation of Main Crop Potatoes.
33	Profitable Breeds of Poultry.	83	Cultivation of Osiers.
34	The Revival of Tillage.	84	Ensilage.
35	The Liming of Land.	85	Some Injurious Orchard Insects.
36	Field Experiments—Barley.	86	Dirty Milk.
37	" " Meadow Hay.	87	Barley Threshing.
38	" " Potatoes.	88	Instructions for the Home Bottling of Fruit.
39	" " Mangolds.	89	The Construction of Piggeries.
40	" " Oats.	90	Advantages of Early Ploughing.
41	" " Turnips.	91	Black Scab in Potatoes.
42	Permanent Pasture Grasses.	92	Home Preservation of Eggs.
43	The Rearing and Management of Chickens.	93	Marketing Wild Fruits.
44	"Husk" or "Hoose" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
46	Haymaking.		
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
49	Poultry Fattening.		
50	Portable Poultry Houses.		

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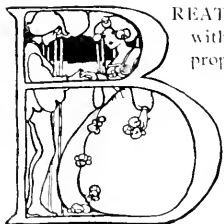
A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

JUNE

1909

Thuja Hedges.

By ARCHIBALD E. MOERAN, PORTUMNER.



BEATHES there a man with soul so bereft of all proper sentiment that he has never gazed with covetous longing at those stately-clipped yew hedges which are the chiefest ornament of some of the most beautiful grounds in Ireland.

The knowledge that a century or two has come and gone in the patient care of those hedges, making his envy the more keen and his longing the more hopeless. If such there be I have nothing to say to him whatsoever. But to you who would exorcise the green-eyed monster that now possesses you I have a word of advice, the which if you will follow will result in transplanting him, green all over, in the shape of a supercilious peacock or a truculent lion rampant, or a teddy bear ten feet high, on to the top of a hedge of your own, as dense, and as green, and as beautiful as any in the land; and that too in an astonishingly short time.

My advice is to plant what a friend of mine calls "impersonal hedges" because "they have nothing to do with yew." They look just like yew to the casual observer, except that they are a richer, fresher green, especially in winter, but they are composed of plants of *Thuja gigantea*, put in about 14 to 20 inches apart and kept faced up on each side till they have reached approximately the height required, and then topped over, leaving of course such trees at intervals as are to develop into the aforesaid greatly to be admired specimens of natural or unnatural history.

It is most important, if our monsters are to

flout their vast extravagances as quickly and as generously as they should, that the right kind of plants should be procured. Some nurserymen—I can never understand why—are fond of cultivating and passing off on their customers the Eastern cedar *Thuja occidentalis*. There are some very handsome varieties of this species, sports from the original, which at the best is a ragged, dull tree, and it is very seldom at its best. Unfortunately, perhaps more than any other tree, *Thuja gigantea*, which is the western red cedar, labours under a profusion of names and a confusion of identity. Its surname is *Thuja*—that's its family widely scattered over North America and Asia, but very exclusive, only some half dozen branches of it being recognised. Its Christian name, which among trees comes after the surname, has been changed from "Lobbi" (after Lobbs, a great plant collector), by which it used to be generally known, to "Gigantea," and in the States and by some home authorities to "Plicata." Probably this latter name will survive. As a sort of nick-name it is called "Arbor vitæ," but this is vague, and is applied to several other trees too.

All the members of this family are most bibulous in their habits; it is only water they drink, but they must have plenty of it. The two American members are so insatiable that they chiefly select swamp land, or close to streams or lakes, for their homes. *Gigantea*, however, will flourish exceedingly in our damp climate on any land that is not naturally dry, like gravel or thin limestone; but if the site is quite moist so much the better. There are very few gardens or grounds which, if they do not already possess them, cannot be improved by one or more of these level-sided, sweet-smelling, impersonal

hedges; for that is another advantage they possess over yew, they have a most deliciously fragrant, fresh, pine wood smell that steals out on the air after a hot summer's day in a most refreshing manner; and still another advantage, the midges hate that smell.

Plain hedges are best kept cut narrower above than below. A five-foot hedge might be one foot on top by three feet on the ground. This lets more light to the top of the hedge and keeps it absolutely dense right down to the ground, so that a mouse could not run under it or a bird squeeze its way into it. Now, if you will not have my pretty monsters and have no place for a plain hedge, or have all the hedges you want, you are still lacking in one thing for which I am sure you can find room. Choose a spot sheltered as well as may be from winds and open to the sun—that favourite seat of yours from which there is such a pretty view, but which is often too draughty to enjoy, is just the spot. Plant a *Thuja* hedge in a half or three-quarter circle round it, with the opening to the south, if the view permits, and its back to the cold Nor'-East; keep it cared and clipped, and in a few years (three or four) you can luxuriate there on those first spring days when we began to feel that the sun really has warmth in it, utterly untouched by the searching winds that will find their way through anything but a *Thuja* hedge.

To go one better still—plant your hedge in the shape of the letter X, for choice on an open piece of smooth sward, grow it as high as you like, and ornament it on top with such carvings as your fancy fashions—a model of a German airship if it pleases you. Put a rustic seat and table in each corner, and come sun, come wind, from what quarter they may, unhaunted by the symbol of that lurking terror that flyeth by night above, you will find complete comfort in some one of your four corners.



GIVE PLANTS ROOM TO GROW.—No greater mistake can be made in gardening than to permit plants to crowd one another in their beds. They suffer both below and above ground; the roots are restricted in development and range, while the work of the foliage and the natural growth of the shoot system are seriously interfered with. In crops raised from seed thinning should be begun early, and carried out gradually as the plantlets advance in size and strength. The successful grower studies the space requirements of his various crop plants, and takes care to give each individual a fair chance to attain its natural development.

The Making of Our Home

(Sixth Article)

By CHARLOTTE G. O'BRIEN

IT is not to be supposed that because I am ignorant about roses, and because bought roses are "cross" to grow here, that I have none. Not at all. I have small roses and large ambitions, and hope as time goes on to have something to show. To begin with, I could not be without the old friends, and moss (pink and white), cabbage, provence, malmaison and monthly, with many another of the sweet Juners delicious for potpourri are here; but besides these, having found rose cuttings very easy to grow, I have been laying friends under contribution, and find that whereas the budded roses fail the cuttings do very well. Of course the kinds are rather limited, as many of the heavy exhibition roses are hard to grow; but, on the other hand, all the Ramblers and Teas, and Banksians and Multifloras, are very free. Then I have taken to growing from seed, and this year hope to see bloom on a dozen *Rosa Rugosa* seedlings, and in a year or two to have a great set-off of handsome briar roses. I have also sweet briars coming on, and a lovely rose I got out of a ditch near Lough Derg that one botanist says is *Rosa Lucida*—a lovely thing at every season, large, flat rose-pink blooms with a big bunch of golden anthers, shining bronzy leaves, and orange-red berries in bunches of a peculiar shape, most helpful for autumn gathering. It is planted close to sweet briar and *R. regosa*, so I expect to get hybrids out of the seedlings. Oh, yes! I look at my inch-high seedlings and say to myself I will have briar roses all over the whole place from the best seeds. I will have them growing in the midst of thorn and honey-suckle and furze; even as the wild briars grow, even so I will have them uplifting on their thorny arms the glory of the June summer. I will puzzle the botanists of another generation, and when my bones are dust and my good spade rust, when my house is pulled down and my garden asphalt and bricks, my extra special wild briars and my daffodils will still linger on the hillside and scent the bloomy air for generations that know me not, nor mine.

This place by the salt river has one great advantage—the sub-tropics are possible. New

Zealand flax grows splendidly, and is a great feature in the place. I really do not know why it succeeds so well here, for we have often really hard frosts, and inland those frosts seem to kill; but I think it may be partly because the leaves do not grow as succulent as inland. My green flax do not bloom, but my striped yellow kind had a spike of flower and ripened seed one year. Cordyline, the Australian cabbage palm, is also satisfactory, but I have wholly failed in growing

Again and again I see elaborate directions given for what is really quite simple. Take this question of growing roses from cutting, for instance. I started a very rich, deeply-dug bed in a particularly sheltered and sunny spot, called it my "incubator," and here I have since grown my cuttings, carnation seeds, &c. I am often asked when you should put in the cuttings. My answer always is, "When you can get them." Really, I don't think it makes



THE SUNDIAL GARDEN, SOUTH.

[Photo by Mr. James Hurley.]

yuccas. Perhaps the salt in the air injures them, for they succeed splendidly inland, or perhaps the place is too dry. As they are expensive I have not really given them fair trials, but some day I may discover a garden from which I could buy a lot of quite small seedlings cheap and young which would probably be my best chance of success.

To return to the question of the roses, I always think in reading gardening papers that owing to the prevalent desire to "hurry up" things are made a great deal more difficult and troublesome for the amateur without heat or an experienced gardener than there is any need.

much difference, except that the strong summer heat may kill off some if they are neglected, but one should have them long, deeply planted, firmly stamped down, and do not be beguiled into thinking the roses are safe because they shoot and even show flower till the second year, or rather the winter of the second year—that is, if you are not able to grow them on in heat to hurry the rootlets out of the callus. If you have only an open border, take my advice and be patient, leave them alone, and they'll all come home and carry their roots behind them!

[To be continued.]

Hints to Exhibitors.

I. Showing and Shows.

By E. KNOWLDIN, Secretary, Royal Horticultural Society of Ireland.

COMPETITION is the life of trade, we are told, and a little further calculation along the same lines deduces that the exhibition table is a powerful stimulus to our best efforts in gardening. The flower show, as a vantage point for a study of human nature, should not, perhaps, come in here, but it's hard to keep it out, so we cry credit, at least, for an endeavour to do so. Of course, the man who does not show starts his critical survey with supreme contempt for a good deal of an exhibitor's foibles, yet, somehow, he does not get very far ere he displays a "strong weakness" for dropping hints ament the perfection of his own produce compared with some on view. Our critic, nevertheless, is not a *rara avis* at the shows, even to the extent of being gregarious, for we have found a little flock of the same species foregather to worry the winners with "I've got better at home" or encourage the losers with "I told you so." One such, who was freely using his privilege of growling at pretty well everything he saw (not very many years ago), we managed to circumnavigate "forinst" the first prize mignonette, asking him quietly what he thought of *that*? He looked over it, and he looked round it, and then looked at it, and at last came the reply "he fed it." That, if evasive, was incontrovertable. Still, in it lays one of the nice points of growing for exhibition, and old "mum" growers particularly too well know to what a nicety this nourishment had to be administered to build up the fat-headed blooms without an abrupt stopping of the blowing similar to the collapses which were apt to occur in the great Dr. Blimber's forcing academy. Then, in the timing of exhibits to be at their best at a given date is a fine exercise for the faculties. "I'll never have them out by the time" said a veteran exhibitor three weeks before the last show, "what do you think?" As far as appearances went we thought not, but knew he would, and told him so, and he did.

Growing, however, is a little behind the scenes of the show proper. The produce which is borne in triumph to the halls of judgment

still leaves openings for the trained eye and deft hand in staging; and here what a difference there is in exhibitors. Some are all fume and flurry and fuss, others calm, collected and deliberate. The first is engaged in watching everybody else's "stuff" but his own, tumbling over his own feet, and favouring his assistants with a few florid adjectives, *soltrovoce*; yet it is but right to add that a good deal more of this is noticeable in shows across Channel than on this side, and that also must be stated is personal experience of where classes were large, prizes big, and "sich langwidge" presumably in proportionate ratio. And it is but right to further add that much of this pertained to the huge stove and greenhouse specimens which are now as defunct as the dodo. In this flashlight from the past comes the indisputable fact that with the passing of the big specimen plant came a new era in exhibiting, and to-day we are nothing if not practical, and taking any show at a given season, to-day, we cannot but think that it runs on distinctly practical lines, commands the most useful and varied of interests, and provides openings for all sorts and conditions of cultivators.

If our much flurried and worried exhibitor is the last out when the judging commences, it is not his fault if he is not the first in as soon as the verdicts are given. "Call yourself a judge? Why my old grandmother could judge better than that" was the compliment paid by an exhibitor to his neighbour, who, unfortunately, had acted in the judicial capacity. Unfortunately, we say, for that a man has no honour as a prophet in his own country was never more applicable than here, or now. And this, too, we venture to say, apart from capacity and moral rectitude; as a matter of fact we have never heard the latter impugned. That an expert is necessary in the more important sections of florists' flowers, such as roses, carnations, sweet peas, and dahlias, goes without saying, and anyone heedlessly undertaking such without due qualification is very near the wrath to come. But, annually, it becomes harder to get these experts, and even then it should not be forgotten that no man is infallible, and it seems a pity that anyone should be thus defied. We have known instances in which it was felt that a mistake had been made, and the committee were able to courteously point out to their expert details which had been overlooked by him, and

the error timely rectified. And, surely, there is nothing *infra dig.* to men who aim at justice pure and simple when we occasionally see the most erudite decision of the Bench reversed on appeal. Several times recently has it been dinned into our ears that there is no difficulty in getting judges. As to that, I more than "Hae ma doots," and should not be at all surprised if, sooner or later, the matter becomes sufficiently serious as to warrant the Royal Horticultural Society of England taking it up, mapping the United Kingdom into sections, and having a list of experts willing to act as such under the Royal Horticultural Society's rules at a fixed fee. Apart from all this, however, the horticultural exhibition is a power in the land; it is the very salt of life to many a man pursuing his quiet way, shut in as it were by a little world of his own, whilst the educational value of the show is a force that is felt over the length and breadth of the great gardening world.

II.—Flowering Trees and Shrubs for Exhibition.

By A. CAMPBELL, The Gardens, St. Anne's, Clontarf.

FLOWERING trees and shrubs are now looked upon as indispensable in the furnishing of a large or small garden, and it is interesting to note that a succession of bloom is obtained from a well chosen collection almost the whole year round.

Many are evergreen, and most of the deciduous sorts have beautifully tinted foliage in the autumn. During the short, dark days of December and January we are cheered by the fragrant blooms of *Chimonanthus fragrans*, *Lonicera fragrantissima*, *Daphne hybrida*, *Jasminum nudiflorum*, *Rhododendron noëanum*, &c. There will follow in succession the beautiful spring flowering trees and shrubs, from which a selection could be made which would form a most interesting and instructive class at our spring shows.

Amongst the many which would suit this purpose are—

Corchorus (Kerria) Japonica,	Berberis aquifolium,
Pyrus (Cydonia) japonica,	Berberis stenoxylla coralina,
Pyrus simonii,	Daphne Blagayana,
Forsythia suspensa,	Magnolia conspicua,
Ribes sanguineum,	Magnolia stellata,
Prunus triloba,	Pyrus malus florabunda,
Prunus incana,	Grevilla sulphurea and rosemarinifolia,
Prunus orientalis,	Erica hybrida and E. carnea.
Hamamelis zuccariniana and arborea,	
Amelanchier canadensis,	

There are still ample varieties for which a class could be furnished at each successive show during the year.

Flowering shrubs would appear to better advantage

staged in a class to themselves than in conjunction with herbaceous flowers, as we usually see them at our spring shows. In arranging flowering shrubs the natural habit and growth should be considered, avoid crowding, and use good specimens of each in suitable vases with the correct name attached to each. It would not be difficult to set up a class of 18 varieties at an April show, and for an autumn exhibition I would advise including plants with berries and tinted foliage.

III.—Growing Roses for Exhibition.

By O'DONEL BROWNE, M.D.

JUNE is always given as the month of roses by all poets. Why, I am sure, I do not know; still, wall roses are generally at their best during the end of the month, but dwarfs in beds are not really into their stride, as racy folk say, until July. June, however, is a very busy month for all of us; laziness during June causes many a lament in July. Exhibitors who intend showing should look over all their boxes, replace all leaky tubes, and get their boxes cleaned and painted in due time. Rose shades should be got, with their stakes, to be in readiness when shading time comes round. A sufficient amount of stakes to tie slender shoots carrying heavy blooms—*e.g.*, Marie Baumann—must also be had at a moment's notice. Some exhibitors go to the length of staking every flower to be shaded; this is, no doubt, very necessary in a situation exposed to high winds, but it is a very troublesome procedure. A point not sufficiently understood by many amateurs is the thinning of shoots and flower buds in their infancy. The thinning of shoots is very necessary for both the tree's sake and also for the grower's. A rose tree can only nourish a certain amount of flowers; it is not fair to expect many flowers, perfect blooms I mean, from a given tree. The only way this can be done is by thinning your rose trees during May and early June. But, like many other tricks, this thinning can only come with years of experience, and must be done tentatively. Suppose you have a tree that can only honestly carry five good flowers. Look at that tree carefully, and see how many weak and superfluous shoots it has. Begin by taking off all in-looking shoots close to the old wood with a clean shave of a sharp knife. This prevents the centre of the tree from being overcrowded. Now, study the remaining out-looking eyes that have pushed into growth. Generally on a pruned plant the top out-looking eye has got away into long growth, and down lower there is also a shoot in fair growth also. If you have many rods carrying shoots such as these it is clear that some must go, but when you have hardened your heart and commence to remove the superfluous shoots, do not leave all of the *same age*. Rather leave some young and some older shoots that your flowering season may be prolonged. Remember not to do all the thinning at the one sitting; the tree will receive a check if you do it thus. Now, you are left with a tree on which are five or six shoots, some just carrying or showing the tiny flower-buds and some not so far advanced. By the side of these crown or middle buds you will notice smaller buds, except in a few examples, such as Mildred Grant. The crown bud should be an even, globular or pointed bud, not showing

colour through its calyx more on one side than the other or on the top. You will find in some varieties, such as C. Lefebvre, that now and then it looks as if the top of the cone had been cut across—eschew that bud, frost or grub has harmed it. If you are not quite satisfied with the crown bud two courses are open to you—(1) either remove it altogether and leave the two most promising side buds (for some varieties carry many side ones) or (2) leave the crown and one of the side buds for future study. Now that you have placed yourself in the dangerous position of pinning your faith to a particular bud your watchfulness must be redoubled, for on that bud your success or failure depends. Mildew, caterpillar, a careless knock, a wind chafing another shoot against it, will all destroy it hopelessly in a short while. Now, supposing that fate has so far favoured you, you still may have two flowers on the one shoot, and one is to go. Be guided by the date of the coming show and the weather. Should you think that your crown bud will be too soon take it off and leave your side bud, and *vice versa*. Nothing but an accurate knowledge will help you. If from past seasons' experience you have noticed that some blooms, after thinning, have come coarse or irregular, do not leave so few, rather leave both buds to reduce the coarseness. Nothing can be more against your box to a judge's eye than coarseness or an unevenness in a bloom. Do not forget to keep your beds hoed very frequently, and begin to thin out any super-numerary shoots and flower-buds, so that those that are left may ripen better, and carry good flowers during the latter end of July and August. Give an occasional application of some of the artificial manures to help the trees in their flowering period. Keep a watchful eye on all maidens to see that they are tied and safe from being blown out of the budded stocks. Watering during a drought may be needed; if so, give a good drenching, and hoe when the soil is fit. There is no need for much watering if you will only use your hoe oftener. Keep your eyes open for the first appearance of mildew, and get at it as early as you can. Nothing will ruin your chances of success so quickly as the pests and enemies of the rose.

IV.—Exhibiting Sweet Peas.

By HENRY J. R. DIGGES.

THE blooms should be cut young, and placed in water as they are cut. If they have far to travel they should be cut the morning before the show day, so that they may stand in water some hours before being packed to absorb in the stems as much water as possible; they will then travel quite safely if packed in tissue paper, but the blooms must be quite dry when being packed; if any dew or rain remains on them they will spot. Some exhibitors bring their blooms to the show standing in water. This is a very good plan if one can travel with the boxes to guard against unwary railway porters upsetting them. Short, squat hyacinth glasses are best for this purpose, and they can be kept in position by two narrow boards fixed at the proper height from the bottom of the box, with grooves cut in them to fit the neck of the glass, one board fixed and the second to be screwed in when the glasses are

in position. Be early at the show tent. Sweet peas take a long time to set up, at least five minutes per bunch. First comers have choice of position in the space allotted; secure good light without direct sunlight; avoid draughty positions if possible; excellent exhibits are often ruined by being upset if the day is windy. A three tier staging should be provided for sweet peas by the exhibition committee, if it is not, the effect of three tiers should be produced by raising the second and third rows, either by using inverted flower pots of different heights for the second and third rows, or by different sized vases if there is a choice to be had, and the early exhibitors have the best chance of securing these. It is absolutely essential that the second row should be from six to nine inches higher than the front one and the third row similarly higher than the second.

If one is fortunate in having first quality blooms, three or four flowerets on each, thirty to forty blooms will be enough to bring for each bunch; an ideal bunch contains from twenty to twenty-five blooms, and they should be placed in the vases so that each individual bloom may be seen—the best being raised in the centre to catch the judge's eye. The stems should be immersed in the water a couple of inches only, so that the full length of stem may be visible—length of stem is an important feature in an exhibition bloom. The judge will look for the following qualities:—First, form; then size, substance, purity of colouring and freshness, length of stem. All blooms having weather stains should be carefully eliminated, a small bunch of perfectly fresh blooms, well displayed, each one exhibiting its perfections, should commend itself to a discriminating judge rather than a fuller bunch in which are many faulty blooms. Finally, when the vases are filled, the utmost care in colour arrangement must be observed. Colours that kill each other must be separated, not only from the other bunches in one's own exhibit, but also from one's neighbours. It is necessary to avoid a preponderance of any one colour; pinks are so numerous that they will be sure to predominate if care is not exercised, and a well-balanced exhibit must have some of the darker shades—maroons and purples, as well as whites and yellows. Successful staging of sweet peas requires no little thought and arrangement; therefore be in good time; hurry spells failure, success demands time.



Through all the summer morning till burning hours were done,

The heavy-headed roses were drooping in the sun;

Through all the dusty morning the roadside hedge was grey,

And slowly through the meadows went the weary feet of day.

Now distant shouts and laughter die down into a hush;

The lark is silent overhead, and silent falls the thrush;

Long since the sun has vanished, the west no more is bright,

And silent and benignant draws on the summer night.

—Robin Fowler.

The Alpine Garden in May.

By WILLIAM DAVIDSON, The Dell Gardens, Englefield Green, Surrey.

A GREAT many of our choicest Alpines flower during the spring months, and where the rock garden has been made with due regard to supplying the necessary amount of shelter, and where sufficient moisture is provided, there is to be had during April and May such a profusion of rare spring flowers that one finds something to admire at every turn. The plants enumerated in this paper do well in the rock garden here. The garden is so formed that the plants are provided with positions to suit their various requirements. A stream supplies moisture to those requiring a damp situation, others are exposed to full sunshine on sloping banks. The plants requiring a dry position are accommodated by being placed on ledges of rock, and shade lovers are provided with situations facing north and under the shade of trees.

It is unnecessary to go into details concerning such well-known and indispensable rock-garden plants as aubretias, arabis, dylssum, myosotis, &c., which, during the spring months, make a conspicuous display of colour.

Anemone Robinsoniana is perhaps the best of all the anemones in flower during May. The flowers are of a delicate mauve shade. Provided with a comparatively cool and shady place, and left undisturbed, it seems quite at home in any good, free mixture of peat and loam.

Soldanella pusilla is a very pretty plant with fringed blossoms, in colour ranging from pale lavender to purple. A shallow, rocky place where they can have abundance of moisture suits them well.

Hutchinsia alpina is a remarkably free-flowering

plant, and where it forms a large mass the little white star-shaped flowers are very effective. It requires a position where there is a good depth of soil.

Houstonia carnea delights in a sunny position on the rocky, and it likes abundant moisture during the growing season.

Omphalodes verna is very useful and attractive when employed to form a carpet in a cool and moist spot. The intense blue colour of the flowers is very pleasing.

Geum montanum is a showy plant for the rock garden. Its dwarf habit makes it a suitable plant for covering sloping banks of the garden, and flourishes in a partially shaded position.

Waldsteinia tri-loliata, a pretty yellow-flowered plant, is very attractive during May, and is seen at its best where some considerable space can be devoted to it. In a fairly moist position the creeping stems form a dense carpet, and the yellow blossoms are very pleasing.

Trillium grandiflorum is a very effective plant, and undoubtedly one of the best spring flowers. In shade it grows vigorously. *T. altopurpurum* flowers at the same time, but the dark colour of the flowers renders it less conspicuous.

Cardamine trifoliata grows well in peat, and requires abundant moisture. The free-growing, dwarf-creeping stems are now covered with abundance of white blooms. This plant

makes a fine companion for the trilliums.

Primula rosea grandiflora makes a very striking group in a shady position, and it thrives well in a moist, peaty soil.

Primula frondosa is a robust little plant, and very suitable for grouping.

Primula denticulata and *d. alba* are so hardy and vigorous that no rock garden can afford to dispense with those lovely flowers.



A NOOK IN THE "ALPINE GARDEN IN MAY"

[From a Photograph by the Author]

“IRISH GARDENING.”

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Soil Hygiene

LAST month, when writing upon the subject of artificial manures for garden soils, we referred to certain possible ill results arising from the excessive use of farmyard manure. Let us briefly review some of the facts bearing upon this matter. We all know that farmyard manure when fresh is not only useless as a food for cultivated plants, but that to the roots of many it acts harmfully, even to the extent of being actually poisonous. Before the dung is safe to use and fit to absorb it must become “ripe”—that is, reduced to a well-rotted condition. What is the meaning of this change? A mass of farmyard manure is made up of a mixture of fermentable organic matter, the various constituents of which are of too complex a nature to be directly used by plants. Indeed they represent for the most part substances manufactured by plants themselves, and before they can be re-used by fresh crops they must be broken down to the simpler compounds out of which they were originally built up. Now, this important work is invariably carried out in nature by different kinds of bacteria, a class of fungi representing the very smallest forms of life known to science. It is these bacteria that feeding, growing, and multiplying in the manure cause it to ferment, and the heat that is generated and the changes that take place during the process are simply the outward and manifest signs of the vital activities operating within the heap.

During the process of fermentation much of the insoluble organic matter becomes soluble, and various kinds of acids and gases are formed that would be detrimental to the roots of many garden plants if the process took place in the soil. As the fermentation proceeds the soluble organic matter is destroyed, and the acids neutralised, and until this stage is reached or nearly so it is scarcely safe for gardeners to

use the manure unless for the grosser-feeding crops. When the rapid fermentation is over and the manure gradually passes into a milder and safer condition, it still contains a considerable amount of fermentable organic material, but the fermentation proceeds at a very much slower pace. When applied to the soil it adds to the stock of humus already present there, while its fermentation is now carried on by the vast bacterial population that inhabits the whole depth of surface soil even to its minutest particle. This humus contains rich stores of food, but stores that are unavailable to crops until the bacteria break up the compounds and reduce them to simpler bodies—an operation often taking long years for its completion. How much of this valuable food material during any particular season's growing can be released for the use of crops, or whether they can get any of it at all, depends entirely upon the activity of these particular races of bacteria. They regulate this source of soil fertility absolutely. This being so we can easily understand how important it is for a gardener to clearly understand the main factors that help or hinder the activity of these beneficial germs in the soil.

One of the most helpful things in this connection is air, as the change produced in the manure is essentially a process of oxidation carried on by living bacteria; therefore drainage and thorough cultivation, so as to admit abundance of air to the soil, are of first importance. But as we have already seen, certain acids are included among the first products of decomposition, and these are alike hurtful to delicate roots and to the bacteria themselves. If they are allowed to accumulate the soil gets sour, the useful fermentations are checked, and the crop fails to reach its highest yield.

To prevent acidity in such cases lime should be freely applied; this will neutralise the acids and render the soil sweet and wholesome. By freeing the bacteria of their harmful excreta it will promote further and more rapid fermentation of the humus, and therefore a quicker liberation of plant food. Soil acidity is undesirable for other reasons, one of which is that the club-root fungus that attacks Brassica with such disastrous results is much encouraged by an acid condition of soil and considerably checked by a neutral or a slightly alkaline one. Heavily manured garden soils lacking in lime are particularly liable to invasion by this pest. The only effective

means of prevention in such cases is the application of heavy dressings of quick-lime to the soil.

Lime is, in point of fact, one of the most useful substances at the command of the gardener, to be used as a means of improving the crop-producing power of his soil. It not only acts as a carrier of valuable food into the system of the plant, but it influences the availability of dung, dung residues, and organic matter generally, as well as most of the artificial manures applied to the soil. It promotes the nitrification of soil ammonia, and thus saves it from loss; it prevents the precipitation of phosphoric acid in the form of insoluble salts; it liberates potash from certain minerals in the soil, and prevents the soluble potash salts applied as manures from passing into unavailable and therefore useless compounds. It is, in short, indispensable for good culture, and high yields of healthy crops free from disease can only be obtained by keeping the soil well supplied with it.

There must be hundreds of gardens in the country the cropping powers of which would be immediately and surprisingly increased by the application of a suitable dressing of lime to the soil.



SMALL HOLDINGS AND THEIR POSSIBILITIES.—In a pamphlet written by Mr. Thos. Smith, supervisor of the "Fels" small holdings in Essex, and entitled "A Solution of the Unemployed Problem," the following statement occurs in an introductory note:—"In 1905 Mr. Joseph Fels purchased a farm of over 600 acres on the River Blackwater, in the parish of Mayland, Essex. When the farm was taken over it was in a very neglected condition. The buildings were in disrepair, the roads were bad, gates and fences were tumble down and the sea wall was breached. The only persons regularly employed on the whole 600 acres were three men and two boys.

"At the present time there are no less than 53 men and seven boys in full work on the estate, and about 20 women in partial employment, and in addition to these, 21 small holdings yield enough to provide for the same number of families. Including all these, it is safe to say that about 400 persons are maintained, and the development of the estate is only yet at the beginning. Apart from the earnings of the small holders, the wages bill is well over £3,000 a year.

"There are now on the estate 40 cottages, 16,000 superficial feet of glass houses, two acres of French garden, 50 acres of land planted with fruit trees, one-and-a-half miles of water mains supplied from a recently bored artesian well, a School House, Baths, Co-operative Store, Post and Telegraph Office, Lending Library, Social Club, Co-operative Productive Association with spacious packing shed, and it is hoped that there will soon be a Public Hall."

Current Topics.

By E. KNOWLDIN, F.R.H.S.

"STILL they come," and more power to 'em all. And in all the gaiety of shrimp-pink, cerulean-blue, sage-green, virginal-white, and Ireland's own, of course. Of such are the schedules of the District Horticultural Societies to hand. And, as we say, still they come. Here is the latest—"Stillorgan and Foxrock Horticultural Society," and the first effort of the sturdy youngster will be in the grounds of the Stillorgan Convalescent Home on July 23rd, with 44 classes embracing all sections, the cut flowers, fruits, and vegetables of which will be duly handed over to the convalescents at the close of the show. We note that Sir John Barton, C.B., is the president, and T. F. Crozier, Esq., Avonmore, Stillorgan, the hon. secretary, whilst each name on the committee is an earnest of what we shall expect. Just prior to the above we received the schedule of the North Kildare Cottagers' and Amateurs' Society, which holds high festival in Straffan, July 21st; and just before that again the Naas District Horticultural Society, with its fixture at Naas, August 4th, and Kingstown, August 11th. Kildare, it must be said, being rurally situated, caters for the cottagers especially.

Now, the question crops up, what—what magnetism, what microbe is responsible for the sudden eruption? And from that the weightier one still—is it going to last? We only venture to express an opinion on the latter part, and that is chiefly derived from a day spent with the North Kildares in Castletown two years ago. We are the better able to draw our deductions from the fact that the evening turned out "soft," but that in nowise seemed to abate the ardour of the cottagers, who from an early hour wended their way to the rendezvous and stayed to the finish. Here, at all events, sufficient interest was displayed by exhibitors as to leave no opening for judicial errors, for we had not been long on the ground, or rather grass, ere a venerable dame, clasping to her bosom the family fuchsia, came up with—"I believe you're the judge." (We confirmed her faith.) "Because I want to tell yer, as you didn't judge us last year, that I always get first prize for m' fewshy." She was thanked for her courtesy. Then, who could forget the expectant but respectful group craning their necks through the tent opening as their fate was decided, or a hundred little things beside which showed the keen, the intense, interest in all which went to make the rural holiday.

Sporting Kildare, we may add, was catered for by a donkey race, the chief event of which was on a par, we presume, with the Conyngham Cup, for over this particular item excitement became perfervid, and how the favourite Post is now a matter of history. It was with pride in his port and defiance in his eye the owner hoisted his gossoon on deck, and such a sleek, well-groomed ass should have behaved better; as a matter of fact, all the coaxing which ranged from grave to gay, from lively to severe, elicited no more than an indignant look from the steed as he turned round and faced his owner, whilst less pretentious animals cantered gaily to the winning post. To sum up from

what we have seen and what we know of these district societies, including the great Midland Counties Association at Athlone, they have not only come, but come to stop and to do good too.

Our onion figures in last Current Topics being questioned on a post card bearing the postmark of Arthurstown, Waterford, we beg to reply to our nameless inquirer that our office imp responsible for them has been called to account, told to do them over again; but, provided with a pocketful of cash to purchase a pound of bulbs for a fresh start, he comes back saying they can't be had now for love or money, so he is now figuring out what that amounts to per ton.

Notes from Glasnevin.

Flowering Shrubs.

ALTHOUGH we have been crying out for rain for our seeds and hay crop, &c., still everyone will admit that the flowering trees and shrubs have this spring given us some compensation for this lack of moisture. With very few exceptions, and those few promised well, but were nipped in the bud by the late frosts, shrubs have flowered this spring in a manner seldom surpassed. The barberries, *Berberis stenophylla* especially, have been good. The flowering currants, *Ribes sanguineum*, and the good, dark red variety known as *R. sanguineum*, variety *atrosanguineum*, *R. aurcum*, and *R. speciosum*, with its red fuchsia-like flowers, have been very fine. The *Cydonia japonica* and its varieties, in all shades of pink, red and white, have done remarkably well, and were very beautiful when in full flower. All the pyrus and prunus sections have done well, and the large plant of *Pyrus floribunda* (*Malus floribunda*) near the pond at Glasnevin, standing about twenty feet high and as much through, was a mass of good pink, and although the bright sun bleached the flowers, it has remained in flower considerably longer than usual. In the same locality of the garden is *Rhododendron Yunnanense*, and this, too, promises well. On close examination some buds will be found brown and dead. So much for late frosts! However, the plant is well worth a special visit. It is a native of Yunnan, and was one of the discoveries of Abbé Delavey, and was figured in the Bot. Mag. T. 7614 from specimens which flowered at Kew in 1897. *Rubus deliciosus*, with its pure white flowers on long graceful branches, is a very beautiful plant from North America, and is well worth more consideration than it gets, and should be more generally planted. Lilaes are a profusion of bloom. *Syringa persica* and its white variety are very graceful. The good forms of *S. vulgaris*, the common lilac, the white and the double white, one of the best being Madame Lemoine, make a very pleasing group.

R. M. POLLOCK.



An unerring perception told the Greeks that the beautiful must also be the true, and recalled them back into the way. As in conduct they insisted on an energy which was rational, so in art and in literature they required of beauty that it too should be before all things rational—*Some Aspects of the Greek Genius.*

Parasitic Rose-Canker.

A New Disease in Roses.

MR. H. T. GUSSON, in a recent number of the Journal of the Royal Horticultural Society, described and illustrated a new disease of roses, which, because of its appearance and fungal origin, is called parasitic rose-canker. The specimens that provided material for examination came from Larne, and the varieties affected were Ards Rover, Crimson Rambler, and Robert Craig, and "almost all the Wichurianas." Since the article appeared similarly diseased roses have been discovered in England. It seems desirable to draw our readers' attention to this disease so that, if found, it may be dealt with, and thus as far as may be to prevent its spread in the country. Through the kindness of the Secretary of the Royal Horticultural Society of England we are permitted to reproduce the accompanying illustrations.

To the ordinary eye the disease first manifests itself on the one-year old wood in the form of canker-like fissures in the bark that callus badly, and are usually of a dark-reddish colour. This stage is shown at fig. K, but it really represents an advanced stage of the disease. The trouble actually begins on the young green stems, as reddish brown or purplish patches, as shown in the drawing A, of a bit of twig magnified to twice its natural size. When the patches are enlarged to four times their real size, as in B, minute cracks are clearly seen in the bark. The real cause of these tiny pores are made manifest by a still further magnification ($\times 201$ as shown at C and D. By looking down upon them as in C, or viewing them in the vertical sections of the bark, as in D, they are each seen to be filled with a cluster of tiny "spore bodies," each of which has the appearance shown in the sketch E (E represents the same but in section), magnified 50 times its natural size. The cavity shown in F is lined with a piliferous growth of delicate threads figured at G, and enlarged 200 times. Each thread has the power of producing a terminal spore, and a few of these spore-producing filaments are drawn at H under a magnification of 500. A number of ripe spores are drawn at I ($\times 750$), and the same spores germinating are shown at J under a magnification of 1000. The spores escape from the spore bodies through a minute terminal pore.

Next season the cracks are larger, and can be easily recognised with the naked eye, as shown at K (L is one of these cracks magnified twice, and M is a cross section of the stem through one of the cracks).

A callus tissue forms (shown at N and cross section of same at O), which in badly attacked specimens enlarges greatly, as sketched in fig. P ($\times 4$). On this callus tissue fungus bodies arise in great numbers, as is well shown in the thin section represented at Q and R. A cankered branch is seemingly very easily killed by frost. The fungus is a species of the genus *Coniothyrium* (*C. Fuckelii*, Sacc., most likely), and is "rather common on various shrubs and trees throughout Europe."

As to treatment, if the primary stages are discovered, it is suggested to paint over the patches with creosoted tar, if badly cankered before discovered it is better to cut the branches clean away.

The Month's Work.

The Flower Garden.

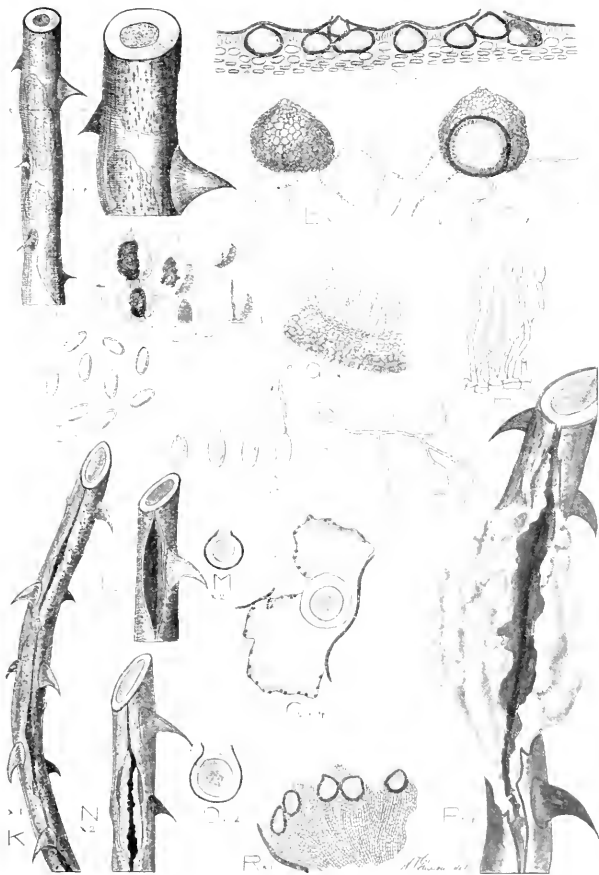
By J. H. CUMING, Overseer, Royal Dublin Society, Ball's Bridge.

STAKES AND PEGS.—Where flower beds are much exposed such things as calceolarias are very liable to damage from high winds, and it is a good plan to stick some stiff, leafless spruce branches round each plant. The plants grow amongst and over them, and are soon lost to sight while giving support. It is also well to pinch off the first flowers of calceolarias, as it enables the plant to make a good foundation, and so prolong its period of life and beauty. Provision should also be made to peg down verbenas, Mangles perargonium, *Phlox Drummondii*, and such like. The wind is ruinous to these plants when first set out, and no time should be lost in securing them. Suitable pegs for the purpose may be made of thin wire cut into six-inch lengths, and a bent hook made of one end. In the country, where the common bracken grows freely, the leaf stems make fine material for this purpose. When carnations begin to "spindle" for bloom, stakes should be put to them and the flower stems loosely tied as they grow. In the herbaceous border avoid the too common practice of tying a bushy plant to one stake, giving the appearance of a glorified broom top. It is preferable to use several stakes round a plant similar to staking peas, and beech or elm branches are very suitable for this, when, if done in time, the branches will be covered by the plant's growth, and a free, natural appearance result.

RESERVE STOCK.—When the work of bedding out is finished and the plants all healthy and hardy, few blanks may occur. At the

same time a reserve stock of all plants used should be formed to fill up any blanks, and where space permits the reserves should be potted into various sized pots and placed in a sheltered, open place. They are thus in a position to fill up gaps in the course of summer if wanted.

WATERING.—From what one sees around the suburbia of our large towns, watering the newly planted flower beds after a fashion forms to the inexperienced one of the most pleasing recreations which their spare morning



PARASITIC ROSE-CANKER.

A series of drawing illustrating the life history of *Coniothyrium Fuckelii* (Sacc.) on the stems of *R. se.* (For description see text on opposite page.)

[Reproduced through the courtesy of the Royal Horticultural Society of England.]

and evening hours afford and I should like to follow up my last month's remarks on this subject by offering the advice that a mere sprinkling of the surface of the soil is productive of more harm than good. Out-door watering, unless it is done thoroughly, is better left alone. Surface sprinklings evaporate with the rising sun, never having reached the roots, and leave the surface soil dry and hard instead. Watering, to be of any material service, must be given in quantity sufficient to reach down to the roots of the plants, and the less frequent its application is made necessary the better. The following day the Dutch hoe should be plied through all the beds where water has been used so as to leave a loose surface and prevent evaporation.

SWEET PEAS.—Butter boxes, small barrels and tubs make fine receptacles for growing sweet peas, and in this portable condition can be moved about at will. Paint the boxes green or stone colour, which removes any unsightliness in that direction. Varieties should be chosen of the King Edward type, as dark sorts fill the eye better than white or light blues. I noticed this repeatedly last year when seeing them in various places. Again, pinch the growths at six feet high to induce a compact, free-flowering mass all round. This also applies to lines of sweet peas used for screens. Last season I saw a splendid screen behind a carnation border entirely made of sweet pea, Miss Willmott. They were cut over at six feet high, and the result was a mass of bloom from the ground to top, and was much admired.

PTIORMUM TENAX.—Much has been written of late as to the suitability of this plant for commercial purposes. For flower garden work it is a distinct and effective plant, creating a tropical effect, and large clumps quickly form when planted in well-manured ground. Perhaps it is not generally known that the variegated form is hardier than the green.

FLOWERING SHRUBS.—Of late years, with the decline in the cultivation of coniferous trees, which in time become monotonous, the interest in our lovely flowering trees and shrubs has been greatly revived. Those who are unacquainted with flowering shrubs should take the opportunity of seeing a good collection, and making note of what may be suitable for their several gardens, and planting same in the late autumn. Deciduous spring flowering shrubs are more graceful and airy in appearance as compared with evergreens, and well repay all that can be done for them.

WALLFLOWER.—Thoughts of suitable subjects to fill the beds next October must now be considered. Apart from bulbs, nothing is sweeter during the spring months than beds of good wallflower. Those who desire fragrance in their gardens cannot afford to be without them. The seed should be sown in the open ground not later than the middle of June. When the plants are ready for transplanting, this should be done before they get leggy and the roots matted into one another. The summer quarters should be open and sunny, and the soil not too rich. Give a foot between the lines and six inches between the plants. By the end of October nice, useful stuff will be ready for the flower beds. To keep the plants compact and dwarf it is a good plan to go

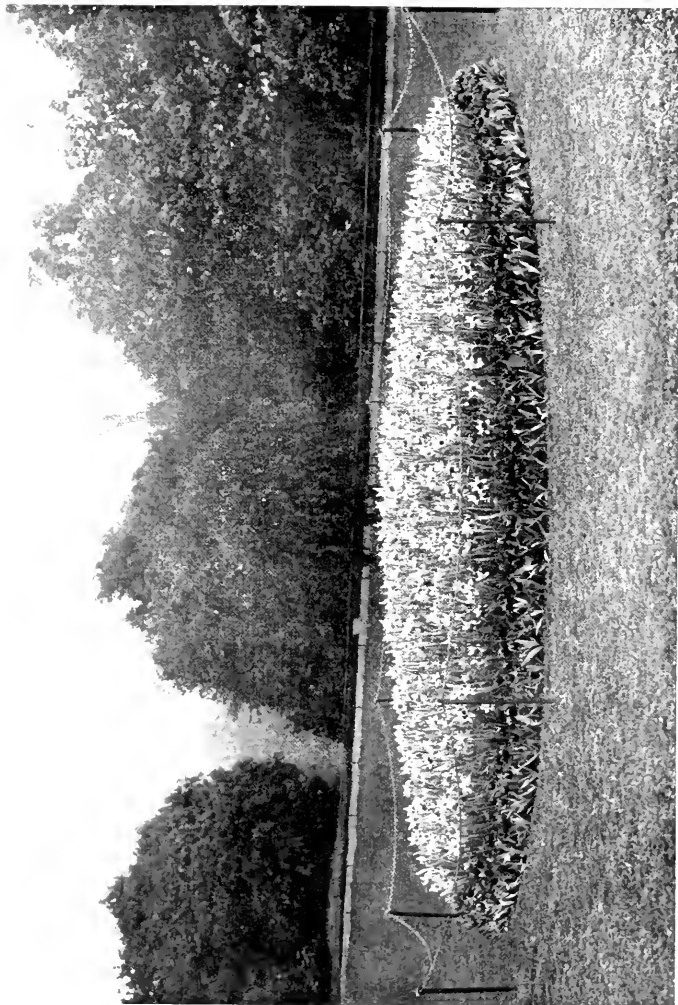
over them when they commence to grow in the nursery lines and pinch out the top of each.

HUMEA ELEGANS.—This very useful decorative plant is not seen as often as its merits deserve. For centres to groups, large vases or conservatory decoration it is equally suitable, and well grown plants command admiration, and are not soon forgotten. Seed should be sown early this month in well-drained pots, and covered very slightly with finely-sifted, sandy soil. Cover the seed pot with a pane of glass, and place in a cold frame till the young plants appear, then place in the light to keep from drawing. When fit to handle prick off into boxes or pans. Pot off singly when three inches high into four-inch pots, in which they should remain till the following January, when a shift into seven-inch pots will then be safe. A further shift in April to nine and ten inch pots will make handsome plants to adorn any flower garden during the following summer. Pot-bound plants carefully watched with respect to water come through the winter best, and they should never have more than a greenhouse temperature. The humea is a gross feeder in the spring, and should be potted in a mixture of good loam, sand, and rotten manure. In cold, wet soils the plants should be plunged pot and all into the beds they are intended to fill, and watering during the summer should not be neglected.

WINTER FLOWERING PELARGONIUMS.—Assuming that these have been growing on from the cutting pot last February they will now be ready for a final shift to six-inch pots. Towards the end of June they may be placed by the side of walks or other convenient place, where they can be fully exposed to the sun. When established in these pots feed with some of the well-known fertilisers. Pinch the growths at the second leaf so as to induce a bushy habit, and keep all flowers off till the middle of September. By the end of that month they should then be placed in a light, airy house, with a temperature of about 50 degrees, after which flowering will be maintained all through the winter.

SLUGS. Up to the present date (May 20th) the month has been exceptionally dry, but if showery weather follows we may also expect that slugs will be troublesome. They eat away the outer portions of the leaves, and young and tender shoots fall a ready prey to the hungry slugs. Dusting of mixed soot and unslacked lime around the base of the plants saves them from attack. Sifted coal ashes round many kinds of herbaceous plants is also useful. The soot and lime should be renewed every week till the stems and leaves of the plants are well advanced.

BULBS AFTER FLOWERING.—It is best to leave bulbs that have flowered in the spring garden as long as possible in the ground; but to make room for the summer display they are often hurriedly turned out and treated with scant after-attention. The better plan is to lift carefully with all their roots and replant thickly in a shady position. There they will gradually ripen off, and when the rush of bedding time is over the bulbs can be lifted, cleaned, and stored, and be ready for planting out again in autumn. By doing this the bulbs are saved, and better results follow another year.



FLORAL BEDDING IN THE PEOPLE'S GARDEN, PHOENIX PARK, DUBLIN.

The spring bedding in the People's Garden this year has been the subject of comment and admiration by hundreds of visitors. The particular bedding shown is made up of "Saxifrage," "Glory of London," forming a glorious mass of colour on the green sward. The result must be highly satisfactory to Messrs. J. J. Hesse, who supplied the plants.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens,
Loughgall, Co. Armagh.

BY the time these notes appear in print growers will be able to form an estimate of the fruit crops for this season. The present is a most anxious time for us all, as now (May 15th) most apples are in full bloom. A few varieties such as Derby, Royal Jubilee, Royal Codlin, &c., do not flower here until the first week in June. The flowers are not fully expanded until then, so will have a better chance of escaping frost than the earlier flowering sorts. Frosty nights are the rule just now, with hail showers during the day—not at all favourable for the setting of fruit. It is sincerely to be hoped that the weather will soon change to more genial conditions; if so we may reasonably hope for and expect a fine crop of apples.

THINNING FRUIT CROPS.—The thinning of the fruits of most kinds, and particularly of apples, pears, and plums, is an operation very seldom performed. Trees carrying very heavy crops undoubtedly derive much benefit from it; also, the fruit is of larger size and of better quality where done. Apples and pears set in bunches of from five to eight or more fruit. If these bunches are regularly distributed over the tree it would be impossible for it to mature all satisfactorily. They ought to be reduced to not more than three fruit to each bunch, and in the case of some of our finest apples and pears one is quite sufficient. Plums set very thickly all along the younger shoots and in bunches. These benefit by severe thinning. Each fruit should be allowed room for development, so that when ripe it may hang clear of its neighbour. It is quite impossible to lay down any hard and fast rule as to how many fruit any tree should be allowed to carry. If I say pears should be about six inches apart all over its surface it would be alright if we could have them so placed. But they, as a rule, set better and produce more fruit buds further away from the trunk than close to it; then to allow them less room in this case would be right. The health, age, and vigour of the tree must also be taken into account; also if they are fully established trees, with roots in proper working order, or if they have been recently root pruned. Recently planted trees and those root-pruned last winter cannot carry as much fruit as established trees. A last word—do not be greedy by overtaking the trees. If your trees bear heavy crops be kind to them, feed them, and at least remove all mis-shapen and small fruits, if no more. They will be all the better for it, and able to carry good crops every year.

WALL TREES.—Attend to the watering of wall trees, and if at all dry give a good soaking of water; if carrying a crop, liquid manure would be of service. These, owing to their position, do not receive the same amount of benefit from rains as trees in open positions, consequently require to be supplied with water oftener.

AMERICAN BLIGHT OR WOOLLY APHIS. This pest often abounds in old orchards, and we find it in young trees occasionally. Its woolly looking appearance and white colour makes it easily recognised. If its presence is suspected it should be looked for and destroyed. A paint brush dipped in methylated spirit or paraffin oil

is the simplest, and at the same time the most effective, remedy to apply; this dabbed on them do not allow it to come into contact with foliage. It is usually found on the main branches and trunk, in cracks, or under loose bark, and often fully exposed.

STRAWBERRIES. These will be ripening during the month. In these parts we do not expect many ripe before the first few days of July a few on young plants, perhaps, the last few days of June. In more favoured parts they will be ripe a fortnight or more earlier. If they have not been mulched with litter, as advised in last month's calendar, no time should be lost in putting down some straw now, cut off runners as they appear, and have all netted over to protect from birds in good time.

GOOSEBERRIES. Do not pick too long, as large berries are not so satisfactory for tarts, &c. Pick fruit nearest the ground first, as they often get spoiled by the soil being washed on to them. Some should be allowed to remain to ripen for dessert purposes. These are better for being exposed to light. To aid this, remove gross growths, which generally arise now, and fill up centre of bush, also side. Shoots and others not required for future development should be pinched to one inch of its base.

GRAFTED TREES.—All growths arising from stock should be rubbed off as they appear. If the scion is making satisfactory progress the clay may be removed, the ties loosened, and retied not quite so firmly as before.

MARKETING.—A few short notes may not be out of place here. Gooseberries are now fit for market, and generally command a good price about Whitsuntide. Sell as soon as possible after being picked, as they shrink rapidly. Dispose of them locally if possible; if not, write your salesman in Dublin or Belfast, who will advise as to the best method to send to market. Strawberries are generally sold in punnets holding one or two pounds each, and packed in crates holding two or three dozen punnets. The earliest and largest fruits sell better for being packed in a single layer in a flat box holding one pound, each fruit to have a bit of leaf wrapped round it to prevent contact with those next to it, but leave fruit fully exposed on top; place a few loose leaves over all, and close lid. Market as soon as possible after; they must arrive fresh if they are to sell well. They should be picked early in the morning and sold the same day. Be cleanly in your methods; use clean boxes, crates, punnets, and packing material. Everything connected with ripe fruit, and soft fruit especially, must be spotlessly clean if the highest price is to be obtained for them.

The Kitchen Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

DURING the warm days of summer, if the amount of water in the ground required by kitchen garden crops be sufficient, growth is wonderfully rapid. This quickness of growth is desirable, as it means increase of quantity as well as good quality. On this account the means by which moisture can be

made available to roots might be now briefly considered. These means are deep and fine tillage, with farmyard manure, mulching, hoeing, and watering. By the law termed capillary attraction deep tillage enables plants to draw a supply of water from below, lessening to a great extent their dependence on rainfall. It also allows a free supply of air into a greater bulk of earth, thus enabling roots—air being another essential—to descend a greater distance from the drying surface. The finer soil is made the more is its water-holding power increased. Fineness of soil also allows air more evenly between the soil particles, thus providing roots with a greater scope for contact with air and water at the same time, which is essential to growth. Mulching and hoeing, by hindering evaporation, help to conserve moisture. In addition to this, mulching feeds crops. Where tillage has been deep and thorough, and when hoeing has been regular, in a dry, hot spell of weather the advantages become pleasantly obvious.

GENERAL WORK.—Mulch the sides of rows of peas and broad beans with moist manure. In dry, hot weather, as the pods swell, water copiously with diluted manure water. This greatly aids the plants at a distressing period of growth. Stake advancing peas, and sow some of the earlier varieties for the latest supplies. Pinch the tops of broad beans forming pods. Continue to sow cobs and cabbage lettuce in richly manured ground where it is intended to finally grow, as transplanting in hot weather increases the risk of the plants bolting to seed. A weak solution of nitrate of soda in watering improves and hastens lettuce. Thoroughly water all crops as they require it. Expose hard water to the softening influence of sunshine before use. Round spinach and turnips must never become dry at the roots, as this means disaster. Turnips must be saved from the "fly" by some means. Watering with a weak solution of nitrate hastens over the dangerous seed-leaf period. Continue successional sowings of round spinach, turnips, radish, mustard, and cress, and make one small sowing of carrots for young roots. Such strong feeders as Globe artichokes, rhubarb, and seakale will benefit by liquid feedings. Remove the flowers from rhubarb and seakale when not wanted for seed. Beginning this month a sowing of parsley should be made to stand over winter. Onion beds benefit by being dressed with soot. If necessary water before thinning. The thinnings are sometimes transplanted for using in a green state, but in dry weather require to be sufficiently watered till well established. Onions may be sown for use as salad. French beans can be freely sown in the beginning of the month, and for succession to the end. Every available spot, as by pailings, &c., should be utilised for the growth of scarlet runners. Pull pods from French beans in bearing before hard, as delay in pulling means so much allowed to waste, and prevents the formation of others to follow. The same applies to peas. Guard vegetable marrows and ridge cucumbers from the gentle jaws of slugs, and effectually too. Rings of wood-ashes, soot, and lime, renewed occasionally, will generally stave these off, but rain soon makes these substances lose protective potency. Use tepid water on marrow and ridge cucumbers till

started. Carrots, parsnips, beet, &c., will require to be finally thinned. The cautious use of nitrate of soda after thinning these crops pushes them quickly forward, but where it is allowed to come in contact with the leaves of the plants it burns like fire. Moderation and caution in this dressing are imperative. The soil about growing crops must be cultivated with hoe or fork as is required.

CUCUMBERS.—Cucumbers in pits or frames during hot weather will require a good soaking two or three times a week. Use tepid water and, when carrying a crop, weak liquid manure. When the main growths extend the required distances, stop and pinch all side growths one leaf beyond the fruit when it is first formed. Close with a good heat, and damp the leaves to prevent the dire attack of red spider.

ASPARAGUS.—Slugs are partial to the young growths, and must be prevented from destroying them. A dressing of nitrate of soda and, from time to time, waterings with liquid manures will assist in developing the growths. Cutting the late growths from asparagus has a weakening effect. If carried too far it is at the expense of next season's crop. Keep the ground free of weeds at all times. A mulch of quite decomposed manure towards the end of month improves weak plants.

CELERY.—Get main crop of celery planted so soon as the plants are strong. If necessary shade the plants for a few days. Use decomposed manure in the trenches, as in fresh manure the plants make slow progress. Early planted celery will require to be kept free of weeds, the soil stirred about the plants, and watered with liquid manure occasionally.

LEEKS.—When strong enough leeks should be planted out in richly manured land. If the largest size is desired grow the plants something after the manner of growing celery, in well manured trenches, earthing as they grow. A handy method for cottagers is to plant out in well manured land, in lines one foot apart, with eight or nine inches between the plants. When planting use a large planting stick, and let the plant down to the leaves (no further) without closing the hole. Watering after planting ensures growth. Leeks proved a valuable crop during the past winter and spring when other vegetables were comparatively scarce.

PLANTING OUT THE CABBAGE FAMILY.—Important work this month will be the planting out of the autumn and winter supply of Brussels sprouts, broccoli, savoy, &c. Success with these mostly depends on a good start made in due time. If sturdy plants are lifted carefully and planted in manured soil, in the afternoon, with a planting stick, and thoroughly watered, these crops are usually independent of further watering. Weak plants, pulled carelessly from overcrowded beds, planted in the full blaze of the sun, will naturally miss here and there, and become stunted, and the wonder is, not that some die, but that any survive. Broccoli best succeeds when the soil is firm. If the land has been recently dug treading is advisable. If planted after early potatoes cleaning the lands without digging is best. In loosely dug land growth of the leaves is over-succulent at the expense of the heart. In most parts of this country frost rarely kills broccoli, as in Scotland and England. Our milder climate

specially encourages the greater cultivation of this valuable crop. Autumn and winter broccoli may be planted in lines about two feet apart, with two feet from plant to plant, but spring broccoli in strong land requires about two and a half feet every way. At this season cauliflowers like a cool, partly shaded site, as between peas or scarlet runners, not too close in the lines, and they respond to rich feeding and manure water applications. Brussels sprouts ought not to be delayed before being planted, as they require a long season of growth even for the main crop. Drumhead savoy may be planted for early supplies, allowing two and a half feet every way between.

In land that contains little or no lime the cultivation of the cabbage tribe is troublesome, owing to it being subject to the attacks of the fungoid disease called "finger and toe." Rotation of crops in such a case must be strictly followed, and the free use of lime in the cultivation of the land, and make sure that the plants have been grown in healthy land.

The Herbaceous Border.

By FRANK HUDSON.

PLANT out dahlias, tubers, stocks, asters, and other half-hardy annuals. Keep them shaded and watered until they get established. Thin out all clumps of annuals sown in the border, according to habit or height. After the summer bedding is done there will be a lot of plants left over; these can be put into vacant spaces, and will give a good effect.

As soon as seedlings of biennial and perennial plants have made their rough leaf prepare nursery beds, transplant them at a distance from four to six inches apart, so that in the autumn each plant can be lifted with a ball of soil. Keep the Dutch hoe working to keep down weeds.

Bees.

By T. MAGUIRE, The Orchard, Enniskillen.

UP to the time of writing (15th May) the season has been exceptionally favourable for the bees. Stocks are very strong all round, and if only the proper weather comes at the proper time a record crop ought to be realised. Swarming will be early this year if the weather be at all favourable for the next fortnight, and sections have already been put on in many places, as there has been quite a glut of early honey. Dandelion was yielding heavily during the recent hot spell, and the strong smell of the freshly gathered nectar from the hives in the evening alarmed some people, who fancied they had foul brood. Dandelion honey seems to be very rank stuff, and sycamore, which is yielding just now, is also very strong-flavoured. Practically no feeding has been required so far, and it looks as if none would be required, though of course a bad fortnight would soon clear out most of the honey gathered.

When a stock swarms and increase is required, the simplest and best plan is to hive the swarm on the old stand, giving it the new hive, with full sheets of wired foundation, and putting the supers with the bees therein

on top. The old hive containing the brood combs should be removed to a new stand, cutting out all the queen cells except a couple of the best looking ones. Perhaps one of the young queens may have hatched out, as sometimes happens, before the swarm leaves. In that case remove all the queen cells, first making sure the young queen is all right. If several queens are required for re-queening purposes, the old stock may be broken into three nuclei, giving at least one good queen cell to each, one frame of honey, and one of brood. Should all the frames be left in one hive it will work up into a strong stock later on, and may require a super when the young brood has hatched out. If it is not desired to increase, a queen can be reared behind the dummy, giving a back entrance. Three frames will be sufficient for the back nucleus, and a strip of excluder should be placed over them to prevent the young queen mixing with the main stock. Care should also be taken that the dummy is not too short, so as to allow bees to pass underneath it. Dummies should be made of two pieces, one with the grain across, the other with the grain up and down, nailed together. Such a dummy can neither warp nor shorten. After the young queen has begun to lay and has been found all right, the old queen can be removed, and her successor introduced by merely lifting the dummy and placing it behind. It takes a 13-frame hive to work this plan comfortably, but no one should buy a hive of smaller size. I find it very convenient to have the hives take two dummies along with the 13 frames. One of the dummies can be lifted out when manipulating the back nucleus, leaving plenty of room. These back nuclei (and in fact all nuclei) should never be allowed to run short of stores. If they require feeding a frame of honey may be exchanged for one of their empty frames. If fed with syrup, they must be detached from the main colony in the supers by putting a piece of canvas between, otherwise the main colony will rob them.

Supering must be carefully attended to. The first supers are already on, in many cases. They should be put on when the stock has become crowded up and honey is being stored in the top of the brood combs, the cells being newly lengthened out for the purpose. The second and subsequent supers sometimes require more judgment in putting on. If honey is coming in quantity and the weather very hot, the second super should be put on when the combs of the first are drawn out and honey beginning to be stored in them. Under the same conditions the third super is required about the time the first is full and beginning to be sealed, but no hard and fast rule can be laid down. If supering be overdone the sections will be badly filled and take a long time in sealing. If not done in time the brood nest will get jammed up with honey, the queen will be flooded out, and sulking, loafing, and swarming will take the place of honey gathering.



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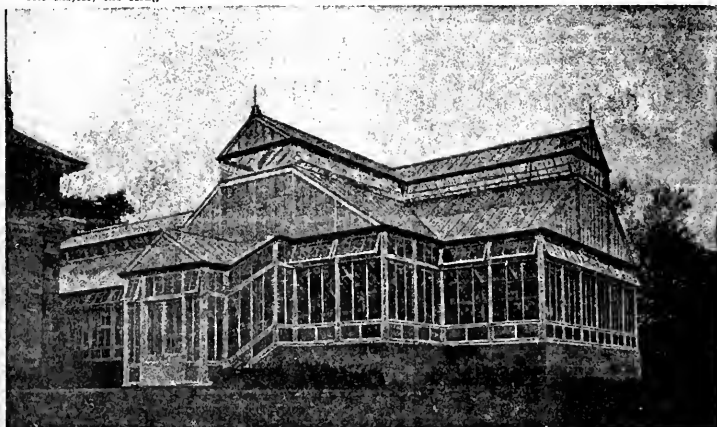


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Irish Gardening

Contents

	PAGE		PAGE
Tuberous-rooted Begonias—		Hints to Exhibitors—	
I.—History	97	V.—Exhibiting Hardy Fruit	106
II.—Culture	98	VI.—Exhibiting Roses	107
The Reader	99	VII.—Exhibiting Vegetables	108
The Avondale Forestry Station (with full page Illustration)	100	The Month's Work—	
Current Topics	102	Flower Garden	109
The Club-Palm	103	Fruit Grounds	110
Charlotte Grace O'Brien	104	Kitchen Garden	111
		Bees	112

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No.	Name	No.	Name
1	The Warble Fly.	51	The Leather-Jacket Grub.
2	<i>Out of Print.</i>	52	Flax Experiments.
3	<i>Out of Print.</i>	53	The Construction of a Cowhouse
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock (or Preshaugh) Spraying	56	Cultivation of the Root Crop.
7	Fluke in Sheep.	57	Fruit Packing.
8	Timothy Meadows.	58	Sprouting Seed Potatoes.
9	The Turnip Fly.	59	Seed Testing Station for Ireland.
10	Wireworms.	60	The Packing of Butter.
11	Prevention of White Scour in Calves.	61	Field Experiments—Wheat.
12	<i>Out of Print.</i>	62	Plans for Creamery Buildings.
13	Contagious Abortion in Cattle.	63	"Redwater" or "Blood Murrain" in Cattle.
14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act Regulations, 1907.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
17	The Use and Purchase of Manures.	67	Forestry: Trees for Poles and Timber.
18	Swine Fever.	68	Forestry: Trees for Shelter and Ornament.
19	Early Potato Growing.	69	The Prevention of Tuberculosis in Cattle.
20	Calf Rearing.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
21	Diseases of Poultry—Gapes.	71	Forestry: The Management of Plantations.
22	Basic Slag.	72	Forestry: Felling and Selling Timber.
23	Dishorning Calves.	73	The Planting and Management of Hedges.
24	Care and Treatment of Premium Bulls.	74	Some Common Parasites of the Sheep.
25	Fowl Cholera.	75	Barley Sowing.
26	Winter Fattening of Cattle.	76	American Gooseberry Mildew.
27	Breeding and Feeding of Pigs.	77	Scour and Wasting in Young Cattle.
28	Blackleg, Black Quarter, or Blue Quarter.	78	Home Buttermaking.
29	Flax Seed.	79	The Cultivation of Small Fruits
30	Poultry Parasites—Fleas, Mites, and Lice.	80	Catch Crops.
31	Winter Egg Production.	81	Potato Culture on Small Farms.
32	Rearing and Fattening of Turkeys.	82	Cultivation of Main Crop Potatoes.
33	Profitable Breeds of Poultry.	83	Cultivation of Osiers.
34	The Revival of Tillage.	84	Ensilage.
35	The Liming of Land.	85	Some Injurious Orchard Insects.
36	Field Experiments—Barley.	86	Dirty Milk.
37	" " Meadow Hay.	87	Barley Threshing.
38	" " Potatoes.	88	Instructions for the Home Bottling of Fruit.
39	" " Mangolds.	89	The Construction of Piggeries.
40	" " Oats.	90	Advantages of Early Ploughing.
41	" " Turnips.	91	Black Scab in Potatoes.
42	Permanent Pasture Grasses.	92	Home Preservation of Eggs.
43	The Rearing and Management of Chickens.	93	Marketing Wild Fruits.
44	"Husk" or "Hoose" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
46	Haymaking.		
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
49	Poultry Fattening.		
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IRISH GARDENING

VOLUME IV
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A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

JULY
1904

Tuberous-rooted Begonias.

I. - HISTORY.

THE begonia or "Elephant's Ear," has now become an exceedingly popular and therefore widely-cultivated genus of decorative plants. The generic name begonia was given to it two centuries ago in honour of M. Begon, a Governor of St. Domingo, who took a great interest in the science of botany and in the cultivation of plants. In addition to the natural species, of which about 350 are known, there are now varieties and hybrids innumerable found in gardens and plant-houses throughout the country.

The family Begoniaceæ is formed of succulent plants with uneven-sided and, usually, alternate leaves provided with stipules. Two kinds of flowers (male and female) are borne by the same individual. The male flowers contain numerous stamens. The female flowers have an inferior triangular ovary of three chambers containing a large number of ovules; hence the capsules are provided with a good supply of seeds.

The principal genus in the family is *Begonia*, members of which are distributed through the

warmer regions of both hemispheres, but especially affecting South America and India. Very few are native to Africa and none at all to Australia. By far the greater number

of the natural species have shrubby or perennial stems, and these, as a rule, require in this country artificial heat to carry them through their various stages of growth. There is, however, a race formed of several species native of South America that can be easily grown, and are cultivated in the open ground in this country. In these the primary stem thickens into a perennial tuberous rootstock filled with abundance of reserve food, and from which every year new flowering shoots arise to die off after the seedling period. This is the



BEGONIA BOLIVIENSIS.

extremely handsome and useful race of so-called "tuberous-rooted" begonias, consisting, at present, not only of the natural species, but of an enormous number of garden forms produced by crossing and re-crossing the original species and their hybrids.

There are six species of historic interest to

the scientific horticulturalist as being the progenitors of, perhaps, all the varieties of tuberous-rooted begonias at present in cultivation in our gardens.

The first species introduced to cultivation were sent to this country from Bolivia and Peru by a Richard Pearce, who was travelling in search of plants for the firm of Messrs. Veitch. *Begonia boliviensis*, here illustrated, was the first of the series sent home. This was in 1864. The plant is figured in the *Botanical Magazine* t. 5657, and described as "a tuberous-rooted deciduous kind." It was collected in Bolivia. The next species forwarded was *B. Pearcei*, also from Bolivia. It was tuberous-rooted like the first, with a leafy stem about one foot high carrying loose axillary panicles of bright yellow flowers. *B. Veitchii* arrived soon after from Peru. This was another tuberous-rooted form with a very short stem carrying roundish leaves, while its clusters of cinnabar-red flowers were supported on stalks approaching one foot high. Clarke's begonia (*B. Clarkii*), collected both in Bolivia and Peru, is very nearly related to *B. Veitchii*. Two other tuberous-rooted forms were imported by the Messrs. Veitch about 1857; one, *B. roseiflora*, discovered on the Andes in Peru, having its leaf and flower-stalks, its stipules and its bracts, together with its flowers, a brilliant red. Davis's begonia (*B. Davisii*), another Peruvian tuberous-rooted dwarf form bearing a six-flowered umbel on short, bright red scapes, completes the list of original species.

Begonias are very easily hybridised, and the results obtained by the hybridist during, say, the last 30 years are perfectly astounding in their variety and interest, and the intelligent and systematic study of this particular section of the genus by the horticultural student will well repay all the time and trouble that can be spent upon it. The first hybrid was *B. Sedeni*, a cross between *B. boliviensis* and another species supposed to be *B. Veitchii*. It was raised by Messrs. Veitch's foreman, John Seden, and named after him. The new hybrid was distributed in 1870, having been awarded the Silver Floral Medal by the Royal Horticultural Society. As a garden hybrid of the second generation we may instance *B. Chelsoni*, a cross between *B. Sedeni* and *B. boliviensis*, with large, drooping flowers like the latter plant. Then, as an instance of more intricate crossing, we

may take the pedigree of the garden form *B. motel*, which, according to Burbidge, "is a hybrid of the third generation, the result of in-and-in crossing carried on between *B. boliviensis* and *B. Pearcei*, in the first instance, and then with *B. Veitchii*, and afterwards with *B. Sedeni*. The result of this interbreeding was the production of *B. stella* and *B. motel*, both certified varieties out of the same batch of seedlings."

In hybridization it is well to remember that *B. boliviensis* and *B. Pearcei* represent the two extreme species in the series, the first giving narrow leaves and narrow and pointed perianth pieces to the resulting hybrid, and the latter a more or less bronze colouration to the foliage, wider and blunter perianth pieces, and a yellow tint to the flowers. *B. Veitchii* and *B. roseiflora*, coming as they do from an altitude of 11,000 to 13,000 feet on the Peruvian Andes, tend to impart a certain robustness of constitution to their respective offspring, while *B. Davisii* transmits dwarfness of habit and brilliant colouration of flowers.

The half-hardy nature of the different members of this section of begonias, their more or less dwarf habit, their freedom in flowering, together with the delicate and pleasing colouration of their blooms, place these charming perennials in the very first rank as summer bedding plants.

II.—CULTURE.

PROPAGATION.—The begonia is propagated in several ways—namely, by seed, by division of the tubers and by cuttings—but that by seed is generally used and will prove best for bedding.

CHOICE OF SEED.—The choice of seed is a very important point in the culture of this plant, as it is only from the best strains of seed that success is assured. Either get seed from those who make a speciality of begonias or pick out your seed from plants you have noticed as being nearest to your ideal. Seed from a pure white and a bright scarlet growing amongst other good strains will secure a good range of colour. Keep your seed when ripened in a dry and rather cool place till the time of sowing, which should be in January.

SOWING OF SEED.—The seed should be sown in shallow pans, well crocking the pan, using a light compost of half leaf soil and half peat, and giving a liberal supply of sand. Fill the pan to within half-an inch of the rim, and make the surface firm and level. Take the seed and scatter very thinly and evenly over the soil, as a little seed will yield an immense number of plants, and sprinkle a little fine soil over, barely covering the seed. To water the seed the pan must be placed in water up to the rim, and the liquid allowed to soak upwards, as watering on the top would wash the seed in too far and

check germination. Place the pan in a moist atmosphere with a temperature of 75 degrees, and cover with glass till germination takes place.

PRICKING OFF.—When the plants are big enough to get hold of they should be pricked off into shallow boxes with rough, fibrous matter for drainage, and a compost of one-third loam, one-third leaf soil, and one-third peat, sifted finely, with sand added. The plants should be lifted out with the point of a label, and pressed into the soil two inches apart, and grown at a temperature of 70 degrees.

HARDENING OFF.—When the plants have grown a fair size, and the weather is suitable, the boxes should be taken out of doors to harden off the plants, but a sheltered place should be chosen so that the fiercest rays of the sun are kept off, as the leaves are apt to scald. When watering never wet the leaves. This will be at the beginning of June.

PLANTING OUT.—When the plants are sufficiently hardened off the beds should be prepared, a rather moist soil should be chosen, and the position of the beds should be such that the sun is kept off during the hottest part of the day. If peat moss litter is procurable a dressing should be given and dug in. Put the plants out 9 inches apart, pressing firmly and leaving a hollow round each for watering purposes.

WATERING, &c.—The begonia requires a great deal of water during its growing season, and this must be well looked after or the plants will shrivel up, but great care must be taken not to wet the foliage, as this is often disastrous.

HOEING should be slightly done just to prevent the soil from capping, but very fleet as the roots lie near the surface.

LIQUID MANURE.—When the first bud is seen, liquid manure should be given every other watering, but diluted to a weak state. Soot water is very good, but good results are got from guano water.

FLOWERING PERIOD.—Blooms should be picked off the soil occasionally, as they present an untidy appearance. The blooming season will keep on till the frost cuts them off, but light frosts can be kept off by sheets of newspaper thrown over the beds where possible.

LIFTING THE BULBS.—When the frost takes them the tops should be cut off, and the bulbs lifted and laid in boxes and dried on sunny days gradually. When dry, the bulbs should be covered with sand, as this keeps them from shrinking and prevents dry rot. Keep the boxes at a temperature of 45 degree till spring.

STARTING THE BULBS.—The bulbs, till March, should be looked over once or twice to make sure everything is going on all right with them. About the middle of March the boxes should be taken out, and the bulbs placed in boxes in cocoa-nut fibre on a rather loose soil, but do not water them to any extent, just sprinkling them and keeping them damp so that they may absorb the water and start their growth. Keep at a moderate temperature, as strong, sturdy growth is required, avoiding great heat, as they are apt to become drawn.

HARDENING OFF.—About the third week in May place them outdoors to harden their foliage, but keep

them in a rather shady place, or at least from the fierce rays of the sun. Gradually get them used to the sun so they may not feel the effects so keenly when they are planted out in the beds.

PLANTING OUT.—Plant out in the same manner as for seedlings, but allowing more room, about 15 inches apart being a good distance.

GENERAL CULTURE.—As begonias are gross feeders the beds should be annually made up. The best manure will, in most soils, be found to be peat moss litter from the stable, as the roots seem to be very partial to peat. One great point to be observed in the culture of this plant is the great amount of water it requires if it is to be well grown.

Even in showery weather it is often advisable to water the plants, especially if the beds are full, as their large leaves shoot the water off.

The Reader.

THE INSECTS AND OTHER ALLIED PESTS OF ORCHARD, BUSH, AND HOT-HOUSE FRUITS, AND THEIR PREVENTION AND TREATMENT. By Fred. V. Theobald, M.A. Pp. xvi+550, with 326 figures. Wyo: The Author, 1906. Price, 30/- net.

Mr. Theobald's reputation among entomologists and cultivators of the soil is deservedly so high that this important work, giving in handy form the results of many years observation and research, is sure to receive a hearty welcome. Readers of IRISH GARDENING who were impressed by Mr. Theobald's recent admirable article on The Apple Sucker will turn eagerly to the pages of this volume for further information about that noxious, albeit interesting, creature, and for the life histories of many other pests in garden and orchard.

The plan of the book is excellent for reference, the various fruits being arranged alphabetically, and the insects which feed on each fruit being described in systematic order. There is, in every case, a good account of the life-history, and a discussion of the methods for preventing damage to our crops, which may be safely consulted, since the author is at once a zoologist and a practical cultivator. The systematic and descriptive account of the various insects are usually full enough for purposes of identification, and are especially valuable in the case of certain aphide—such as those that infest strawberries, the typhlocybrids of the plum and apple, and other species of which Mr. Theobald has made a special study. But even in the case of common and well-known insects that have been again and again described, the author has some valuable original observation to give us. The appendix on insecticides will be particularly welcome to the practical man.

On the whole, the illustrations are praiseworthy. Mr. Knight's drawings and many of the magnified photographs are admirable; but a rather large minority of the photographs are useless for purposes of identification. There is a full bibliography at the end of the account of each species, and no economic zoologist nor intelligent gardener can afford to do without this excellent volume. G. H. C.

The Avondale Forestry Station.

By A. C. FORBES.

A PART from the forestry work carried out at Avondale since its acquisition by the Department of Agriculture, the estate is of historic interest to those interested in arboriculture. In the latter half of the eighteenth century Avondale was in the possession of the Hayes family, a prominent member of which was one Samuel Hayes, M.R.I.A., the author of a treatise on "Planting and the Management of Woods and Coppices," dedicated to the Dublin Society in 1794. Evidences of Hayes' work may still be seen in many of the trees at Avondale to day, consisting of such species as silver firs, Turkey oaks, planes, Spanish chestnuts, &c., while the old beeches and other trees near the mansion date from about his time.

The Hayes's were succeeded by the Parnell family early in the nineteenth century, and Avondale remained in their possession until 1903, and in the following year was purchased by the Department of Agriculture for converting into a forestry station and school.

The present estate consists of about 350 acres of land lying along the west bank of the Avonmore, which has cut for itself a deep bed through metamorphosed schist and slate. The banks of this river were apparently always more or less wooded, and are still covered in places with oak scrub, mixed with holly, hazel and other indigenous species of little commercial value, but extremely picturesque and characteristic of the district.

The laying out of the estate as a forestry or, more strictly speaking, acclimatisation station was commenced in the winter of 1904-5 by the removal of old fences and hedges, the clearing of part of the old woodland, and the re-planting or planting of a few acres below Avondale House. This work was the preliminary to the planting of the forest plots, pinetum, and arboretum, which are now the chief features of the station, the object in view being that of combining the planting of these with a forestry school for working foresters and woodmen.

Records of the growth of the plots will be made from time to time, and to facilitate this work as far as possible the majority of the plots have been given an area of exactly one acre. The ground was first divided into sections, their size and positions varying according to the species for which they were intended. Each section contains a number of species belonging to the same natural order or genus, so far as this arrangement was practicable, as shown in the following list of sections:—Maples (*Acer*); Elms (*Ulmus*); Beech, Chestnut and Hornbeam (*Cupuliferae*); Oaks (*Cupuliferae*); Silver Fir (*Abies*); Spruce (*Picea*); Pines (*Pinus*); Larches (*Larix*); Poplars and Willows (*Salicaceae*); Ashes (*Fraxinus*); Chestnut Coppice; Locust Tree Coppice; Douglas Firs (*Pseudo-Tsuga*); Hemlock Spruces (*Tsuga*); Cypressines and Junipers; Thuias, Sequoias, and *Cryptomeria*; Hickories, Walnut, Planes, Tulip Tree; Cedars, &c., &c.

In the principal plots about 60 species have been planted, chiefly in mixture with larch, spruce, Scots

pine and silver fir, the first named being the standard nurse in use for "hardwoods" or broad-leaved trees.

Amongst European species may be mentioned the following:—Broad-leaved English and Wych elms, sycamore, Norway maple, sessile and pedunculata oaks, and the Hungarian species, *I. conferta*. Several acres are also under ash, birch, hornbeam, Spanish chestnut, &c. All the above may be said to be doing well, although the chestnut has suffered severely from late frosts.

Amongst European conifers are the pines, *P. sylvestris*, *Larix maritima*, *Austrocedrus*, the common spruce and silver fir, and *Abies cephalonica* and *A. nordmanniana*. Of these silver fir is cut back by spring frost almost annually, but when once established above the frost line will probably do well. European larches are represented by plants from Tyrol, Scotch, Silesian and Irish seed, but so far little difference can be noted between them.

The most interesting plots in course of time will probably be those planted with American and Japanese species, although few of them are likely to attain large dimensions. Of American species of broad-leaved trees the following are being tried:—*Ulmus americana*, *Acer dasycarpum*, *A. saccharinum*, and *A. macrophyllum*, *Quercus rubra*, *Q. palustris*, *Liriodendron tulipifera*, *Betula papyrifera*, *lenta*, *lutea*, *ulmifolia*, *p.-pudifolia*, &c., *Coryu alba*, *porcina* and *amaro*, *Juglans nigra*, and others. Judging by specimen trees in other parts of Ireland none of the above is likely to attain a large size.

Of the American conifers several are very promising, especially Douglas fir, Sitka spruce, *Thuja gigantea*, *Cupressus macrocarpa*, and *C. Lawsoniana*, *Sequoia sempervirens* and *S. gigantea*, *Abies grandis*, &c., the two first named giving every indication of proving valuable timber species.

Amongst Japanese species, few have been tried beyond larch—*Cryptomeria* and *Zelkova Kuzuki*. It is doubtful whether any of them will prove of great economic value, as even the most promising of them, *Larix leptolepis*, requires more time to test the encomiums that have been bestowed upon it by optimists.

Species from Africa, India, Australia, &c., are represented by *Cedrus atlantica*, *C. deodara*, *Pinus excelsa*, *Picea maritima*, *Eucalyptus Gunnii*, *Coccoloba unguicera*, &c. Of these last it is hoped to find one which will be capable of surviving a severe winter. Species planted individually, or in small clumps in the arboretum and pinetum, are too numerous to mention, but fully 200 species of one kind or another are represented, in addition to a large number of shrubs.

In the nursery many untried species are being raised with the idea of ultimately planting them out in corners and spots not already occupied. Many of these species will also be tried on a small scale in the various woods now being acquired by the Department in different parts of Ireland in which soils and situations of varying character will be found.

At the present time little can be said as regards the success or failure of the species tried. Judging from specimens in the neighbourhood, or in Ireland generally, however, it is probable that the West American trees, such as Douglas fir, Sitka spruce, &c., will do well.

AVONDALE FORESTRY STATION



PLAN OF FOREST PLOTS SHOWING POSITION OF SECTIONS.

The number of sections is 18, covering an area of over 100 acres. I. Maples; II. Elms; III. Beech, Chestnut and Hornbeam; IV. Oaks; V. Silver Fir; VI. Spruce; VII. Pines; VIII. Larches; IX. Poplars and Willows; X. Ashes; XI. Chestnut Coppice; XII. Locust Tree Coppice; XIII. Douglas Firs; XIV. Hemlock Spruces; XV. Cypresses and Junipers; XVI. Thuas, Sequoias and Cryptomeria; XVII. Hickories, Walnuts, Planes, Tulip Tree, &c.; XVIII. Cedars. (Reproduced by permission of the Department of Agriculture.)

Broad-leaved species from the Eastern States, such as hickories, planes, tulip tree, *Robinia*, &c., are not likely to attain a great size in the cool and moist summers of this portion of Ireland, and great results are not expected from them. Japanese species, such as larch, *Cryptomeria* and *Zelkova*, are doing well at present, but little can be said about their ultimate development. A curious feature is the almost complete failure of all Siberian species in the way of growth, larch, silver fir and spruce from that region remaining in a dwarfed and stunted state for many years when planted in the British Isles, and they are maintaining this character at Avondale.

The development of many species has been greatly retarded by late spring frosts. On May 16th of this year the Avoca valley experienced a very severe frost, and young growths of ash, oak, Spanish chestnut, silver firs, &c., were completely killed. Two years ago a somewhat similar frost produced the same results. Apart from this climatic feature, conditions are fairly suitable for most species being experimented with.

Current Topics.

By E. KNOWLDIN, F.R.H.S.

WHAT is the world coming to? We mean the gardening world, it doesn't matter about another just at the moment. Has any one ever seen such a joyless June? Beds of tuberous begonias cut off in their innocent youth during the second week, and this within sniffing distance of the briny, sweet Dublin Bay, to be exact! Killed? Yes, killed dead, and the question is, unless one has a pile of blankets ready, is it safe to bed out nowadays before July, or leave out miffy plants after August, considering that September is often snappish enough to tickle tender things to death, or at least, sufficient for a label, which might be writ "werry large" as poor Joe would have it, Ihabod—their glory has departed? And we saw too, Cityman's garden in Suburbia beautifully bedded out, and Cityman himself in brilliant smoking cap, and broad smile complacently offering incense from a capacious Kapp & Peterson, as he opened his heart and purse wide enough to satisfy that artist, yeclpt the jobbing gardener who hied him with all haste to the "Dodder Arms" to "wet 'em." And we saw the wreck (the garden we mean—not the gardener) a week after, and we thought it very bad taste of that piano-organist to grind out the glory song with such gusto at the gate, when he might have soothingly switched on something more appropriate, such as "Tis but a little faded flower." Blessed are those who have no tender bedding to betray them, and hardy plants suffice their heart's desire. We were assured a decade ago that the bedding fashion was dying out; but it dies hard. It wants a couple more of such joyful Junes in succession to hasten its obsequies, at which the man in the street would, we suspect, be chief mourner, for if he did not get his bedding in his—the People's Gardens, Stephen's Green, and other public parks—he might "heckle" his member to raise a row in the English Parliament. And he should get it—the bedding we mean. The rows are more easily raised.

But, apart from this winter of our discontent, what of the drought which parched retentive soils to the parting point? In a good garden of this kind, where the muck barrow moves merrily through the winter months, the soil had shrunk sufficiently to leave opening chasms—"chawms" an old gardener called them—daily increasing, and the much worried head asked us "what the 'devil' with his limited number of hands, he was going to do? Like a good few other gardening questions an answer was not looked for, still we ventured to suggest that, as his cracks and chasms were gaily and daily gaping wider and deeper, it might be as well to tie a horizontal bar to each hand-back, we mean to prevent the sad and sudden exit of what he could ill spare. "Good mulching," "copious watering," "hoeing galore," that's the way, says Plentyhanded Happyhead, to circumvent the drought. Such advice is cheap. It is excellent too; a pennyworth of it from any gardening paper will go a long way, but not far enough for any head handicapped by a shortage of hands to overtake all, and we know, as every gardener knows who wades through these topics, that a very large percentage of gardens is suffering from this evil, which is now, with the haying for the head and his hands to tackle, at its acme stage, and—and it's a weary world, my masters, and would that more understood it when complaining of the second-hand look of the garden and grounds—stake on just at a time when all should be taut and trim. And what a difference it all makes! How pleasant it is to see all swept and garnished from the lodge to the bye paths and backways of all within the gates!

"Mr. B—, I must compliment you on the beautiful order of the avenues." Thus the late Canon Sadleir said to an old friend who had a big lot to look after, but knew that a clean walk covered a multitude of sins. "Well, Sir, you see I never know the moment the Lord might come (the Lord, and his family were absent)," replied B—. "Exactly so," said the Canon, who saw his opportunity for a clerical shot, "that's what I am always telling my people." What a fine subject for a sermon! But why start preaching in IRISH GARDENING, some critic of our current thoughts may ask? Well, my friend, there is no topic running a stronger current generally at the present moment than this of the struggle to keep all decently and in order, under the high pressure alluded to, and from experience both sides of the Channel none more relevant to IRISH GARDENING particularly. We know of more than one master who is openly repining over his meadows being but half a crop through the drought, and we know, also, of more than one head gardener who *sub rosa* is secretly rejoicing that it is so, in order that he may the sooner get back to his beloved garden where his heart is. Gardeners, the bulk at least, are men of many parts, but the steward pure and simple where such is kept, is, saving his presence, and with all deference to his stewardship, a steward pure and simple to the end of his days. By the way, we were talking to one recently 91 years of age, still in harness, nimble, hale, and hearty. It is not a difficult picture-puzzle drawn from life for our critic to find the moral.

Ever and anon through the pages of gardening history, and we have lately gone through a little library of the chief gardening papers, the question crops up—What

constitutes an amateur? It is always a topical topic, a troublesome topic, but by no means a trivial topic, to those interested in exhibiting. Amateur? Even old Dr. Johnson, in what a French friend called "dat amusing little work de Inglesch Dictionnaire," was too near-sighted to foresee the trouble this word was going to give in gardening. At different times and at different places various interpretations have been put on the term, but nothing definite has been arrived at, and never was there a more pressing need for it. Each society can, of course, make its own rules and be a law unto itself, but that neither fills an universal want nor does it

always give that local satisfaction and confidence the subject demands. Everyone says a line must be drawn, but as things are at present the line would have to be drawn as cleverly as that New England farmer made his fence who contrived it so cunningly that every time the old mule did get through it still found itself inside. We should like to see this knotty question unravelled by the combined wisdom of the governing spirits of the Royal Horticultural Society of England, who have done so much to take the tangle out of Horticultural judging. Certainly, in the latter direction they have, we may say, done no more than they ought to have done, for soft words won't butter even Wisley parsnips, and judging by what they *have* done in the code of judging rules they surely might take up the amateurs, sift them into sorts and sizes if necessary, and to the shillingworth of judging rules, or is it

eighteen pennyworth? tack on a twopenny appendix, a classification list if needs be, resolving this exhibition worry into something like law and order. We would, in fact, like to see the Royal Horticultural Society code of judging rules going even farther, by embracing every pertinent subject to exhibiting, one of which is prize-winning with other men's produce, of which there is some jet black evidence found in a perusal of the last twenty years' history of gardening. That, of course, may all have been stopped, but in our gallop over the twenty years' course of three leading gardening periodicals we did not notice the stopping place. Any way, how valuable, and what a tower of strength would be a completed gospel edited by the apostles of horticulture under the regis of the Royal Horticultural Society!

By the way, Mr. Editor, what a pretty peep you gave us, last month, of daffodils all a-growing and

a-blowing in the People's Gardens! As nice a little picture as ever we met, with its glorious backgrounds, of which those fine gardens provide so plentifully for the bedding. "The result must be highly satisfactory," &c., &c. (See footnote, June No.) But, Mon Editeur, Ma Chère, did ye no see another bed, right forinst the Parkgate street entrance? A big bed, thickly sown with hyacinths, king of the blues, hundreds of them, any one spike of which would not have disgraced an exhibition board. Oh! my, sich whoppers! But what we want to talk about was the daring mixture of Keizer's Kroon Tulips through them. Shades of Turner and the old Temeraire! We saw the glowing mass against the setting sun. Blue, and scarlet, and gold, and live surrays, all blended in a glowing transparency: the richest, maddest, merriest combination we ever saw. Gentle reader, who planneth bulb beds, do likewise.



A FINE CORDYLIN AT OLD CONNA HILL.

[Reproduced through the courtesy of the Editor of the *Farmers Gazette*.]

The Club-Palm (Cordyline).

THIS handsome plant, although palm-like in appearance, is not a true palm. It really belongs to the lily family, as is shown in the structure of the flowers, which are small, white, and arranged in branched panicles. The fruits are berries. The woody stem, frequently stoloniferous at base, bears a large, terminal tuft of long, narrow, drooping leaves, more or less leathery in texture. The hardiest species are natives of New Zealand, some of which attain a height of 30 to 40 feet.

The Cordylines flourish best on rich, loamy soils. Well-grown specimens are very effective on lawns, giving quite a sub-tropical aspect to the whole garden. It is only in the mildest parts of the country that Cordylines succeed. In the Dublin district they flower and ripen seed annually.

The illustration shows one of a large number of cordylines grown at Old Conna Hill, near Bray, the residence of Captain Riall. The photograph was taken by Mr F. G. Bell early last month, on the occasion of the visit of the Dublin Seed and Nursery Employees' Association. The climbing plant covering the bare stem of the tree is a crimson rambler rose, but whether its presence really improves the appearance of this fine specimen of cordyline is, of course, a matter of personal taste; for ourselves we would prefer the trunk in all its natural nakedness.

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Charlotte Grace O'Brien.

By W. F. P. STOCKLEY, University College, Cork.

“WHEN my bones are dust and my good spade rust,
when my house is pulled down and my garden asphalt
and bricks, my extra special wild
briars and my daffodils will still
linger on the hillside and scent the
bloomy air for generations that
know me not, nor mine.”

There is much of Charlotte O'Brien in the tone of these her last words. She was outwardly strong, though she had known trial, suffering and sadness; she was courageous—

Languor is not in your heart,
Weakness is not in your word—

many have felt that, have wondered at this impulsiveness, have felt ashamed of themselves, doubtless, at times, when their more arid hearts have had dull leisure to criticise her fullness of heart; not sentimental indeed, nor analysing her feelings, perhaps, yet overflowing with that great heartedness which some in sorrow often remember when they think of what she said or poured forth. She had made her life, she had striven and fought. What life was to her, as to others, was not what she may have planned. But her life at Ardanoir, in her garden, was herself, was a happiness to herself; even in later years, a happy rest, which (to revert to Burke's words) hates sloth, but loves quiet. And so it was to many others, and a happiness, as her strengthening, to those who live among ugly, stupid conventions, and who like to dwell in mind at *aranoir* on the hill of the gorse and gold. Could it have seemed more beautiful than the June day when loving hands carried her coffin from it, under the clouds filled with sunlight, with the glow of the laburnums over the rich wildness of the flowers, the dark wood up the hill,



CHARLOTTE G. O'BRIEN
In early life.

and the wide Shannon shore so lovely and so loved? That picture of it, of her, in the March IRISH GARDENING, is beautiful. She herself looks resting; and these last months a certain grey weariness seemed to lift less often from her face. Her noble greeting seemed less buoyant. She said that she did not look for long life; yet, what her readers have felt in her, of a wise cheerfulness and practical acceptance of things, those characteristics her personality passed on—“taught” is not the word—to others: a something spontaneous, inevitable, natural. The poet did not say of just such a life—

Glad hearts, without reproach or
blot,

Who do thy work and know it not—
yet the words are not in
applicable. The priest-friend
who spoke at the Mass while
her body lay near the altar
told his hearers how his
thoughts had often been,
when ministering to her,
that a priest could well long
to have that simple, whole-
souled faith. Pasteur-like, “I
have the faith of the peasant,
and if I knew more I should
have the faith of the peasant's
wife.” In earlier days she
had been much attracted by
Caroline Fox and such Friends;
as, later, all were embraced in
mystical Catholicity. To the

present writer she wrote, in mingled distress and amazement, of things of piety that she found in one of Father Faber's books. If *that* was Christianity and Catholicism—well, she expressed herself strongly. And I am not saying she was discerning, or that it was her characteristic to have a right judgment in all things. The mood passed, I daresay. And she was no great disputant. Like her guide, Aubrey de Vere, whom she knew so well; like his brother, Sir Stephen de Vere, her neighbour at Foynes, whom she revered for his love for Ireland and for that care for the poor which made him share their trials, in worse days crossing to America. And I remember seeing Miss O'Brien herself, a horrible emigrant figure, lugging a huge, hideous carpet-bag into a Dublin tram, spurning alarmed attentions. She was just off for the Cove of Cork, in the days when she would

prove in her own person whether more tickets were given to emigrants than there were places in ships. For, thus, the poor people had to spend, in lodginghouse keep, the little hoard they had for the other-side landing. And therefore, she, and her right-hand man, were hounded and hooted by the monopolists of the Cove. She found things out, and made things better. So, as we all know, she helped to make things better in the women's quarters in the steamers. At first suspected and attacked by the steamship companies, she had, for the last quarter of a century, a standing offer of free passage, I think, from many of them. She did her people lasting good. Herself an Irish nationalist, by loyalty to her father, Smith O'Brien, by instinct, shall one say, and by conviction, there never was a better follower of the best in the best of her father's friends, Thomas Davis, and of all his teaching to accept every man's work for Ireland; never to question, nor to suspect; to be ready to forward every honest effort, to meet honesty fairly, to be ready, again and again, to believe

in others. That is shown in her story of the Fenian times, *Light and Shade*. If it is now out of print, one says let it be reprinted. It is out of real experience, deep longing for the good of Ireland, sympathy with the weak, with the foolhardy, with the brave; not without plenty of criticism of the madness of the people. And yet a madness both divine and mean. In her Co. Limerick she had lived a free child life, mixing with the people in the bad old, good old days. At Cahirmoyle

We led our life, a full and joyous life,
And knew but little of the world's deep grief,
Nor even our own, though sad beyond belief.

Almost the youngest child, in 1848 itself she was knowing little or nothing. But her father's story was idealised by her always:—

And well I mind when first I saw thy bowed
And seared grey head bent low beneath a cloud
Of disappointment, silence, and despair.
Thy land lay in a trance, thou thought'st it dead,
And that deep sorrow aged thy downcast head.

"I can do nothing for our Irish," he once wrote, "until they stop their senseless feuds."

His daughter, Gaelic Leaguer, industry helper, and peaceable politician, practised what he would preach. She had a canny side, and yet a romantic—"Pauvre vieux cœur toujours neuf"—though her young days, indeed, were only sixty years since. The series of sonnets—*Cahirmoyle, or the Old Home*—tells of the young family life—fair and free and *unexamined*:—

My mother reading
with unwearied tongue
Of the brave tales and
the brave deeds of old.

A mother kind and good, intelligent and helpful, whose voice, reading the Psalms, lingered (her daughter lately wrote) as a call to highest

things—in ears for whom present day sounds were hushed. This was strong and brave, was it not?—when such a difficulty was coming on—to venture into the world of fighting for a right, and to win, bearing some, at least, of the usual insults and obloquy. And these words are so noble, and passionate, and simple:—

The woods are silenced for me, and the streams
Ripple no more for me along the leas;
No more for me the birds sing melodies
To greet the morn, or give the sun good dreams;
No more the circling rooks in heavy crowds
Beat homeward cawing, 'neath the wind-swept clouds.

Where are the sweet sounds gone? Are they all gone?
Gone from the meadows deep with swathes of hay. ..



CHARLOTTE G. O'BRIEN
In later life.

Oh, bitter loss! all nature's voices dumb,
 Oh, loss beyond all loss! About my neck
 The children cast their arms; no voices break
 Upon my ear; no sounds of laughter come—
 Child's laughter, wrought of love, and life, and bliss;
 Heedless I leave the rest, had I but this.

This volume, *Zyriacs*, is dedicated to brothers and sisters and "their children who are my children." Some of these know of mother-like tender care, though the hand that wrote those words, and that would have grasped and as it were crushed the world for love—for love of home and land, for love of God in His heaven, that all might be right with the world. A colder spirit may be displeased with a poet's heart. But such a leaping forward to a new justice, such a belief and such a trust, it may indeed be foolish—and Charlotte O'Brien strove to know; so that it might not be foolish with her—yet it makes us thank God that we were fools once in our lives. I wish I could but hear her laughing at this little outburst. Her sense of humour saved all. What a relief. Of her cultivated sense and her instinct of fine taste in the things that really matter I have said nothing. So will it seem to all who knew her. I have not even said how she led a daily dog life, with dogs so much better than humans, as Scan's mistress maintained. "I can go nowhere while Scan lives," I see in an old letter. But Scan's descendants roared, for generations, at Ardanoir, and performed at tea as in the picture, and were loved and smacked, by one who was loving, but would put up with no shirking, in man or dog.



MISS CHARLOTTE O'BRIEN, whose contributions to IRISH GARDENING have given delight to so many readers, died on the 4th of June. The news came to us from Ardanoir on the morrow of her death, and filled us with a consternation and a sorrow that cannot be expressed in words. It was so shockingly unexpected. We had been in communication with her early in the month over the last article of her series, "The Making of Our Home," which was to appear in the present number. She was not feeling well, and asked for the latest date possible for sending in the MS., which, alas! was never written. Miss Charlotte O'Brien was a great and warm-hearted Irish woman whose memory will be cherished by many, and lovingly so by those of us who chanced to fall within the indescribable charm of her wonderful personality. At our request her kinsman, Prof. Stockley, has most kindly written, amid the press of exceptional professional duties, the foregoing appreciation of Miss O'Brien, which we know will be perused with keen interest by all our readers.

To Miss Nelly O'Brien, who now enters into possession of Ardanoir, we are indebted for the two photographs used in illustration of Prof. Stockley's article.



JUNE of this year has been a black-letter month in the annals of IRISH GARDENING, as since the issue of our last number it has lost two of its most valued contributors. On the 25th of May, James Harper, Marketing Expert to the Department of Agriculture, took suddenly ill, and on the 31st he died, to the dismay and sorrow of a host of friends. Mr. Harper's experience and unique knowledge were always at the disposal of readers of IRISH GARDENING. To his grief-stricken family we offer our sincerest sympathy. We had the supreme pleasure of knowing Mr. Harper in domestic life, and can, therefore, all the more appreciate the poignant sorrow that his loss will cause in the home. He was a genial host and a true and loyal friend.

Hints to Exhibitors.

V.—Exhibiting Hardy Fruit.

I.—STRAWBERRIES.

MOST growers of hardy fruits grow a few strawberries, more or less, but few, if any, of the commercial growers take any interest in forwarding the choicest of their fruits to an exhibition. They usually forward it to market, where it probably pays them better, and leave the showing to either amateurs or to professional gardeners.

That the commercial growers do produce large quantities of first-class fruit fit for competition is one certain of, and would like to see much more of their produce on the stands at our shows all over the country.

Strawberries are now ripening very rapidly, though much later than last year, and by the time this is in print some of the best exhibition fruit will have come and gone, as it is the first and second fruits on each truss which are generally the largest, best coloured, best shaped, and the truest type of any or the berries.

In growing for exhibition it is advisable to reduce the number of fruits on a plant from 6 to 12, according to the strength of the specimen, and to water the plants copiously with manure water, especially during dry weather. Straw should be placed under the fruits to keep them off the ground and free from grit, and it is advisable to place some fish netting over them to prevent the birds from destroying them.

In selecting the fruits the first thing to be borne in mind is the type of the variety you wish to exhibit, and select fruits as near the type as possible.

Take Royal Sovereign, for instance. Select fruits above the average in size, almost as big as you can grow them, providing that they are symmetrical and conical in shape. They should be of a bright scarlet colour. Fruits like this will have a rich, vinous flavour.

MONARCH.—Select large, broadly conical-shaped fruits; they will be paler in colour than Sovereign,

and the pips will be very pale, and have a pale-coloured bloom on them.

BEDFORD CHAMPION.—Procure large fruits, which is easy done in this case, but it is more difficult to procure good fruits, the majority of the large ones being unshapely. The colour should be a deep scarlet, and the pips should stand well up in the flesh.

Great care should be taken to see that all the fruits are free from blemish of every sort, such as decay, bruises, or insect marks. They should be exhibited with their stalks attached, perfectly ripe, and, if at all possible, should not be gathered until the morning of the show. Cover the plate with some nice, clean strawberry leaves, and lay the fruits gently on the leaves.

Twenty fruits constitute a "dish," and they should be, as near as possible, all equal in size, shape, and colour.

Each dish should be correctly named.

Marks are awarded for ripeness, freshness, and bright colour, rich flavour, handsome shape and size.

In a collection of fruit, an excellent dish of strawberries will receive six points.

W. S. I.

VI.—Exhibiting Roses.

By O'DONEL BROWNE M.D.

THOSE readers who intend exhibiting cut blooms at the coming local shows throughout Ireland during this and the next month must see that all things are prepared in due time. No good can come from things done in a spurt. The usual classes at our local shows are for either six or twelve blooms, and so you must provide yourself with a tray or better a box and tray, the latter pierced with holes five inches apart for tubes to hold both water and flower, commonly known as Foster's tubes, these tubes can be got from Foster, Ashford, Kent, for 5s. 6d. per dozen, or from any seedsman. With the tubes are wires to carry the flower. Labels of the approved style can be bought either plain or with any roses name on it for 2s. per 100 from Messrs. Blake & MacKenzie, School Lane, Liverpool. Proper moss must be procured, velvety in texture, and should be set out in some shady spot, and kept well watered. Some rose shades to shade blooms from rain, sun, and dew are absolutely necessary if a perfect bloom is required, paying special heed to dark reds, yellows and pinks. Some fairly thick wool for tying up the centres of blooms will be also required. Two days before a show, a careful survey should be made of all roses, and any promising bud which will about hit the show should be selected and shaded. When the outer petals have sufficiently opened a piece of wool about six inches long should be taken, and one end should be lapped twice round the other. This loop thus formed should then be passed around the centre of the yet unexpanded flower and helped into place by a camel's-hair brush, and sufficiently tightened to only prevent slipping. Then a shade, taking care that wind does not rub shade and bloom together, should be put over the flower. Now your box and tray should be cleared, the tray mossed over nicely and evenly and left in a cool place. When cutting time comes fill ALL the tubes with rain water and give the moss a syringing.

I will presume that my readers only intend showing at a local show, if they intend travelling any distance by train they must make their preparations beforehand. There is much diversity of opinion as to when blooms should be cut—say on an evening prior to or morning of show. I always think it wiser to cut in late evening prior to day, as blooms keep better and are drier when so cut than those cut very early in morning. NEVER cut or tie a bloom when wet, for when it dries it will spot and burn. Cut your roses with stems about six inches long—the choicest and best first—and let them be put into water quickly. Repair to your staging place and take a wire of Foster's tube in your right hand, and holding the stalk of flower in your left hand, get the rounded top of the wire snugly round the base of the bloom, give the stalk a slight pull to make the rose sit lightly, and wire round stalk and holder. Cut your stalk as long as the wire support, and put your flower into the tube and LABEL it. Repeat with them all, and leave a little of lid open for night. Now for every bloom wired, as meant to be shown, there should be a spare (if possible a younger) bloom taken in another box; these should also be wired and labelled. Press all the tubes when leaving home fully down, lock or strap the box, and keep your eye on that box until the place of show is reached. When you reach the show (get there early) put your box on the staging (this is imperative in London, and quite right), lift your lid, replace any leaky tube or spilled water and rest yourself. When staging time comes commence by raising all your tubes to the one uniform height. A little manipulating is necessary to help an unopened bloom to open, by pressing back the outer petals with a camel's-hair brush. Untie the flower; if it holds and does not "fly" or become too much open, well and good, re-tie that flower and go on to the next. Any flower that "flies" must be replaced, and mind about duplicates. When all are ready get a pot or brick and prop up the back of your box to an angle of forty-five degrees or so and replace your lid. When told to do so remove your lids, but leave your ties as long as you can. Don't forget any when you leave, as a tied bloom *should* be counted nil. Try and arrange that the largest flowers are at the back and keep colours well scattered—*i.e.*, do not put two reds side by side. Have a couple of spares ready in case any rose looks "groggy" (there is no better word) at the final moment. It is this jockeying and maneuvering that makes rose showing so entrancing, be not too greedy or try for too much, dividing forces is a bad game; experience alone can guide us. Just let me give you a few hints before I close: If you are going to show use the right sized box and set your box up early. If you find you are late and have no room, ask the steward to request the owners of boxes to *kindly* make room for you (do not do as a person did to me in Dublin last season who came late and gave my box a push and sent all flying) and there will remain harmony. You will find that all or nearly all rose growers are a very amiable lot of people and treat them accordingly. Lastly, remember what the late Dean Hole said:—

Who misses or who wins the prize,
Go lose or conquer as you can;
But if you fail or if you rise,
Be each, pray God, a gentleman.

VII.—Exhibiting Vegetables.

IT is unnecessary to devote a special article to the growing of vegetables for exhibition, as the subject has been, and is at present, being suitably treated under the heading of the "Month's Work." Anyone following the directions herein given from month to month will scarcely require further instructions. Good cultivation and the selection of high quality seeds of the best varieties are the two outstanding factors of success in the exhibition tent. It should always be remembered that largeness of size does not necessarily mean excellence of quality; indeed, anything approaching or even suggestive of grossness should be rigorously excluded from any exhibit. It is the medium-sized specimen, uniform in shape with unblemished skin and of high flavour, that gains the highest number of points in judging. In conveying the exhibits to the exhibition ground great care should be taken to prevent injury to the skin of the more delicate specimens. It is a good plan to wrap such specimen each in tissue paper, and, if the distance is far, to pack with wood-wool to prevent friction or contusions. Exhibits such as peas and beans in pods may be packed in cabbage leaves from which the mid-rib has been removed. Vegetable marrows are very delicate-skinned and require careful handling. Some exhibitors cover these with tissue paper, and then wrap them in cotton wool to prevent bruising.

There is a great art in arranging the exhibits, and it is in this that the painstaking exhibitor with a tasteful eye heavily scores over his careless and inartistic rival. There is no reason why an exhibition of vegetables should not be made as pleasing to the eye as a collection of more showy plants. Yet how very often it is no better in picturesque effect than the window of a third rate green-grocer's shop on a Saturday night. The different exhibits are all crowded together on ugly bare boards with no attempt at effective grouping or of providing a suitable background to throw up the mass colours of the specimens. The complete scheme of arrangement, even to the minutest detail, should be thought out beforehand, and in packing, to have the specimens so arranged that those required first will come to hand first on unpacking. Arrange the stage so that every group of exhibits can be easily seen, taking care to allow sufficient space between each group. As a background, parsley may be used, so a sufficient quantity of this herb should be brought in the hamper.

In arranging the exhibits particular attention should be paid to having the various groups nicely balanced, and also to have them so placed with respect to one another that the colours will harmonise and thus produce a pleasing effect to the eye. In exhibiting it is not only necessary to grow the produce well but to show them well; to make them look so attractive that they at once arrest the attention of the passers-by. A really good exhibitor is always a good marketer, as he is able to make his consignments attractive to the eye of discriminating buyers, and thus is able to secure the highest current prices for his well-graded and tastefully packed produce. With regard to the selection of specimens for the exhibition table we take the liberty of compiling from Mr. Edwin Beckett's standard work on "Vegetables for Home and Exhibition" a memorandum of the chief

points, which in the opinion of this well-known and successful exhibitor should be considered when choosing vegetables for competition.

I. ROOTS AND TUBERS.

BEEF.—*Long*.—Medium-sized roots, evenly tapering and of good colour. *Round*.—These varieties should be deep, skin clear and tap-roots small.

CARROTS.—Medium-sized, fresh roots, good form according to variety, colour clear and bright.

PARSNIPS.—Roots should be straight, tapering evenly and well shouldered, skin clear and free from all spots.

POTATOES.—Medium-sized, good shape, eyes shallow, skin clear and free from disease.

TURNIPS.—Perfectly solid, of medium size, flesh crisp and juicy, small tap-roots.

II. LEAFY SHOOTS.

ASPARAGUS.—Fresh heads of uniform length and thickness.

BRUSSELS SPROUTS.—*Plants*.—Stems straight and densely and regularly covered with sprouts. *Picked Sprouts*.—Medium size, firm and quite fresh.

CABBAGE.—Medium-sized heads, firm, of good form and quite fresh.

CALIFLOWERS AND BROCCOLI.—Well rounded heads of good depth, but medium size, firm, and free from all blemishes.

CELERY.—Large heads, leaf stalks in good condition, solid, clean, and well blanched.

KALE.—Fresh and compact heads, sturdy growth and good colour.

LETTUCE (*Cabbage and Cos*).—Firm, blanched well and in good condition.

ONIONS (*Autumn sown*).—These should be well rounded, clear skinned, and show no tendency to ribbing. *Spring sown*.—Fine size and condition, skin clear, well rounded or globular small neck, perfectly solid and well ripened.

SPINACH.—Leaves of good substance and fine colour.

HERBS (*Parsley, Mint, &c.*) should be tied neatly in bunches or arranged in vases of a suitable size.

SALADS should be shown quite fresh and free from all coarse leaves and blemishes, distinctly labelled and neatly arranged in trays.

FRUITS AND SEEDS USED AS VEGETABLES.

BEANS.—*Broad*.—Pod of even size, well filled, beans quite tender and not dark-eyed. *Runner and Dwarf*.—Pod perfectly straight, of good colour, long, of good substance and in fresh condition.

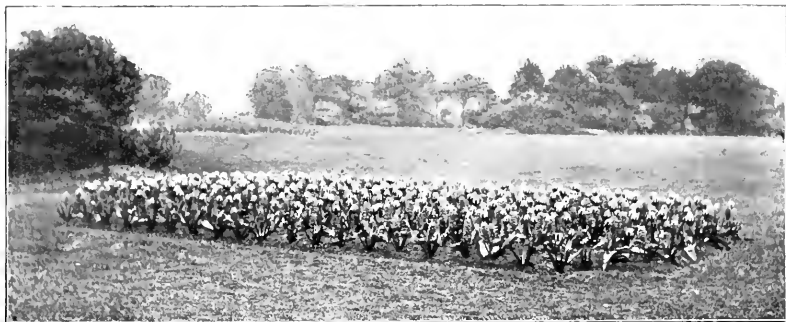
CUCUMBERS.—Fruit straight and uniform throughout, short neck, fresh with fine bloom and without markings.

PEAS.—Pods of fine appearance, well filled and of good colour. Peas fresh and of good quality.

TOMATOES.—Skins clear, rich colour, fruit solid and in fresh condition.

VEGETABLE MARROW.—Fresh and tender, medium size and good colour.

* This character is required where the custom of peeling before cooking prevails.



TULIPS, KEIZER KROON IN LEINSTER LAWN, DUBLIN.

The Month's Work.

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

GENERAL REMARKS.—Now that the busy planting months of May and June are past, the important matter of dress and high keeping the whole season is necessary. The greatest amount of flower gardening cannot be pleasing to anyone with any pretence to refined taste unless a high state of cultivation and neatness prevails. One bed of flowers may be made to attract more attention than a great number. A small garden well arranged and highly kept must, in the nature of things, be far more productive of enjoyment than a larger one out of proportion to the means of its owner, and consequently badly kept. See, then, that neatness and order is maintained throughout the garden. Dead leaves on the plants in consequence of the check of replanting require picking off, the surface of the soil kept stirred, grass regularly mown, and the edges kept trim. Walks should be cleaned and rolled. All boxes and pots that were recently used for bedding stuff should be carefully cleaned and stored away, as many of them will again be required in two months' time. With continued dry weather all through the most part of June begonias have suffered possibly more than other tender bedding plants. To keep the ground cool and moist, clean sifted peat moss or leaf-mould may be spread over the beds as a mulch which will help to protect the roots from drought.

THE HERBACEOUS BORDER.—Such things as delphiniums and pyrethrums should be cut down as soon as flowering is over, and in late summer months many of them will yield another set of flowers almost equal in size to the first ones. As some of the perennials go out of flower, gaps occur, and bare patches in summer is unsightly. Things then should be found to keep up the summer display. Among good annuals for this purpose will be found asters, comet and sinensis; these make a

fine show and are useful for cutting. Nemesis, calendula (marigold), ten-week stocks, and seedling violas are all easily obtainable and quickly come into flower. Virginian stock sown in little patches is also very welcome. Some of the stock pelargoniums that may have been left over can also be utilized in the mixed borders, as the main idea is to have no vacant places during the important summer and autumn months, when all beds and borders should look their brightest.

REHMANNIA ANGULATA.—This is a novelty of recent introduction from Central China. The flowers are about three inches in diameter—not unlike the incarvillea—rose purple in colour with yellow throat. The spikes are from four to five feet high, and continue in flower for several months. In the show-plant house at Mr. Justice Madden's, Nutley, I noted a few days ago a grand lot of this plant in full flower, and arranged over a mass of show and zonale pelargoniums. The rehmannia was in eight-inch pots, and the flower spikes standing up without any stakes over the other plants made a charming effect. It is well worth growing for indoor decoration, and may be tried outside in sheltered situations. The cultivation is simple. Seed may be sown at any time, but, as it is really a half-hardy perennial, now is a favourable time to sow for next summer's display. Place the seed pans in a cold frame, and shade till the young plants appear. When fit to handle prick off into boxes, thereafter into three-inch pots when large enough. Keep them growing cool all winter, with just sufficient heat to exclude frost. Pot on as the roots of the plants require it, making the final shift into eight-inch pots in March, which are quite large enough to carry them through the flowering period.

BEGONIA GLOIRE DE LORRAINE. To have good plants for early winter use, daily watching will be necessary and particularly in watering, never getting the plants too wet. Cuttings that were struck and in four-inch pots will now be ready for their final shift to six and seven-inch pots, which are quite large enough to

grow plants three feet in diameter. The soil should be rough fibry loam and peat, with the fine mould shaken out of it; broken charcoal and crocks, some sand and chopped up sphagnum moss, about equal parts. This makes an excellent mixture, being free and open, and the begonia roots cling to the rough parts, and there is also no danger of the soil turning sour. A nice growing temperature is 50 to 55 degrees F., and during the hottest part of the day the plants should have a slight shade, but it may not be continuous, and when September comes in the plants will be better without it. A light position near the glass with ample room are necessary from the start.

SALVIAS.—Among useful bedding plants, are the comparatively new dwarf salvias, fireball and Glory of Zurich. The latter variety is specially fine, having a bright scarlet inflorescence which is quite as equal in colour to some of the best scarlet pelargoniums. The height does not exceed a foot, and they flower profusely all the season till cut down with frost. At the Chief Secretary's Garden, Phoenix Park, where summer bedding is remarkably well done, Mr. Sayers puts a high value on the usefulness of the above dwarf salvias. He strikes the plants in boxes placed in a cold frame at the end of August, and kept growing all winter in a temperature with just the frost excluded. Potted up in spring, fine plants are ready for planting out by the end of May. They will suit most positions, except a very dry one, as then red spider is liable to attack the plants.

ANNUALS.—This month annuals want special attention, and it cannot be too much impressed upon growers that thinning annuals is an important point in their culture very little attended to, with the result that the flowering period is short and their cultivation discouraged. They are sown thickly, and oftentimes allowed to run up into flower without ever being thinned at all, and the result is, to say the least, disappointing. What would be the result if the farmer treated his turnip and mangold crop so? To get the best returns, annuals must be thinned as soon as they can be handled easily, and thus allow each plant to develop itself properly. This should not be done all at once, but at two thinnings at least. Another point which helps the prolongation of their season of bloom is to remove all decaying blossoms and so preventing seed-pods from being formed. When this is attended to, the energies of plants are directed towards the production of flowers, and these are produced much finer than if the plants are allowed to grow seeds in the ordinary way.

WINDOW PLANTS.—In the long drought we have had lately I have noticed many window plants filthy with dust and insects. As clean water and fresh air is promotive of health in the animal kingdom, it seems not to strike a great many people, fond of house-plants, that these also must have a clean skin and fresh air. Whatever plants we cultivate, the more healthy they will be in proportion to the state of cleanness and fresh air they receive. Many plants are a disgrace to windows because the owners never try to keep them clean. Nimble fingers would soon make all the filth disappear. Take the plant and spread the fingers and palm of the left hand over the surface of the soil in the pot, and turn

the head of the plant into a pail of water wherein a small piece of soap has been dissolved, moving it briskly several times through it, then sponge every leaf, upper and lower side, and again plunge it in clean water, and the result will be pleasing to the plant and its owner. If fresh air and washing with water is attended to, insects will seldom trouble them. When one understands the functions performed by the leaves of plants, the importance of giving them fresh air in rooms will at once be recognised. Window plants thrive best that have not been enervated by confinement, and can hardly have too much pure air got from an open window. Avoid, of course, draughts or frosty air, and begin by a little opening, which soon changes the atmosphere, and increase it as the room gets warmer.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

CHERRIES.—To preserve the fruit of these from birds, nets will have to be employed. Where grown on walls, as is usual, this can easily be done, as the nets may be secured to the top of the wall and allowed to fall over to the ground, using forked sticks to keep them clear of the foliage, otherwise the birds would alight on the net and pick fruit through its meshes. It is advisable where several trees are grown continuously against walls to have the whole netted over with one-inch mesh wire netting, fixed to poles let into the ground three feet from base of the wall and resting against its top, and closed at both ends, and so fixed that it can be opened at both ends or fastened without difficulty. Trees in open places require to be entirely enveloped in nets if fruit is to be preserved. It is a costly and tedious business, consequently not much grown where small birds are plentiful, except for ornamental purposes, for which they are admirably adapted; few trees surpass them in beauty when in full flower. Nail up shoots before they get too long or they may get broken. After fruit is all gathered syringe the trees thoroughly, as dirt accumulates about them during growth. If Blackfly has been troublesome, a good strong insecticide may be used for this purpose, otherwise clean water is sufficient.

STRAWBERRIES.—The fruit of these are now (June 19) commencing to show colour, and by the time this is in print will be fully ripe in most places. They will require daily attention, gathering fruit, &c. When being gathered, those for dessert purposes are to have about one inch of stalk attached, and for preserving be picked without the bush, so that too much handling of fruit will not take place.

When all are gathered, the whole plantation should be thoroughly cleaned, weeds and runners being removed and the soil hoed or slightly pricked over with forks, as it will have got hard and caked consequent on gathering of fruit. If runners are required for making fresh plantations they must be secured early, lightly fork ground about the runners and peg them into it. A hooked peg or a stone will keep them in position until rooted; from this they may be transferred to ground

where intended to remain, or if this be not ready an old shallos frame, or one made of boards can be made to nurse them for a time; erect on a hard surface, and put in the bottom three inches deep of well decayed manure, thoroughly broken up, and on top of this two inches of soil. Plant into this about four inches apart every way. *Water*.—Syringe overhead every evening, and keep shaded from strong sun until rooted. When being transplanted from this they will scarcely feel any check, as fine balls of soil can be kept to them. They may also be rooted in pots filled with soil, into which they are pegged, and afterwards kept watered. This is the best method of all, but when large quantities are wanted, not advisable, as the labour involved is too great, besides plants can be had quite as early and equally good by the method before stated. Do not propagate from barren plants; though they produce the finest runners they are worthless.

LOGAN BERRY.—This plant sends up very strong basal growths—five to eight of these are to be secured to trellis—the number may vary according to space available. The remaining shoots are to be cut away. Assist fruit bearing plants by watering with weak liquid manure.

APPLES.—Standard and bush tree should have useless spray removed. A lot of this generally arises on trunk and large branches, and if allowed to grow soon smother up the centre of trees. These are best rubbed off as they are seen to push into growth. If not done then, they must now be cut clean back to their base as close as possible so that they may not break into growth again.

The summer pruning of these may be commenced in the warmer and consequently earlier districts of the country about the 20th of the month. In the colder and later, and particularly on cold, heavy soils, it may safely be deferred till the middle of August. The summer pruning of trees in the open is very seldom practised, although common enough amongst gardeners on wall trees, also espaliers and cordons. Its benefit to bush and standard trees when properly carried out is beyond question. It is impossible to go into details in an article of this kind as to how it is done, &c. Suffice it to say, that the leading shoots should be pinched back slightly, and all other shoots, which in the ordinary course would be spurred in the resting period, be cut back to about half their length. The object being to form fruit buds at the bases of these shoots and in the leading shoots to make them form spurs. If this were more regularly done less long bare branches would be seen in our fruit grounds. Each branch ought to be fruit spurs from base to top.

GENERAL.—Owing to dry weather experienced up to date of writing the strawberry crop will not be very great, nor will the fruit be very large. If rain should soon come it would greatly improve matters. Those who mulched as directed last month will reap the benefit of their labour, as such plants have not suffered nearly so much as those that have not been done. Apple sucker has done considerable damage in many places this season, its ravages are apparent on all sides. At the same time, the apple crop will be a heavy one. It is said, the show of bloom has been the finest seen here for forty years. Undoubtedly it was a fine sight to see

the different orchards a perfect sheets of colour. Severe thinning of the crop will have to be done in many cases. Pears too have set well, better than for very many years.

The Kitchen Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

IN soils of a shallow or of a light and porous character the importance of mulching to kitchen garden crops can hardly be over-estimated. In fact, in such soils, in a time of drought, unless by a great expenditure of time and labour in watering, without mulching it is impossible to maintain that healthiness of vigour which is necessary for good quality. A half-spent hot-bed from which some early crops has been taken makes an effective mulch for any vegetable crop. It is short, and consequently is easily spread; is moisture holding, yet porous, and contains plant food. When an adequate supply of this kind of manure is not at hand, which is often the case, the grass cuttings from lawns can be utilised for the same purpose. Even this by keeping the surface of the soil cool, and by retaining moisture, greatly helps to encourage crisp vigour. Lettuce, turnips, cauliflowers, cabbage, peas, beans of sorts, celery, before being blended are some of the summer crops that derive economical benefit by being mulched during a hot, dry spell of weather.

GENERAL WORK.—During the first week of the month make a last sowing of French beans in a warm aspect. At the same time a last sowing of first early peas is sometimes put in on the chance of getting a late gathering, but this is uncertain. If parsley has not been sown last month make a sowing at once. When potato onions, shallots, garlic, and tripoli onions finish growth without delay lift these crops or they may start roots again when rain follows, and expose in a dry, sunny place until quite dried, when they ought to be got into store. Transplant thinnings from lines of lettuce to a cool position facing north. These will form a succession to the undisturbed plants remaining in the rows. In scorching weather a supply of good lettuce is most appreciated and is most difficult to manage. The shade of evergreen branches stuck in the beds is helpful to keep the heads crisp, and mulching and watering must not be neglected. Early in the month get in large lots of cauliflowers, and for succession again later in the month. Cauliflowers may follow in the drills from which early peas have been cleared. Plant out cabbage for an autumn supply and continue to get out broccoli and savoy of sorts, as well as kales and Brussel's sprouts, &c., to give a continuous supply. Prepare ground for sowing hardy lettuce, onion, cabbage, cauliflowers, and winter spinach next month. Make a sowing of endive and thin out the lines of earlier sowings and transplant the thinnings if required.

CELERY.—In the cultivation of celery for exhibition the use of paper collars is helpful. These assist in blanching the plants before earthing up and delay the necessity for earthing—which is an advantage, since by this the plants can be fed for a longer time—and prevent earth getting into the hearts, and otherwise protect the head

from blemishes. Before earthing up the earliest crop remove all suckers from the plants and make sure that the roots are sufficiently supplied with moisture. If necessary give a good soaking of liquid manure the day before. When collars are not used the earth must be prevented from entering the hearts by careful handling. Continue to put out plants for main crop and successional supplies as soon as strong enough, and water and shade immediately and until established. As celery is naturally semi-aquatic it must never be allowed to want water to get good results.

TOMATOES.—Remove all side growth from the axils of the leaves as they form and fasten the main growth as it ascends. Water when required, but liquid manure need not be given till some few clusters of swelling, green fruit call for assistance. If the weather is dry and hot a mulch of short manure is beneficial.

SOWING CABBAGE FOR SPRING.—In the south the sowings of early cabbages made during the last week of July and the first week of August proved more satisfactory last year than those made earlier, as the season continued mild and summer-like until on towards mid-winter, and the plants in many cases from the mid-July sowing became too forward for standing well over winter. This may not occur again, but as coming weather is always uncertain, and as the character of the season decides how plants behave, it is wise not to confine our seed sowing to any date. Make sowings of Ellam's Early Flower of Spring, or of some of the other trustworthy spring kinds, first, about the middle of the month; second, during the last week and again early in August. By this means, if we miss in one we hit in another, and so all's well. Remember that nothing can make up for the loss of such an important crop as early spring cabbage. Now is the time to look to this.

TURNIPS.—About the middle of the month, or as soon as enough early potatoes are lifted, a large sowing of such varieties as orange jelly, Veitch's red globe or Black Stone turnip should be made to give a winter supply. This crop can be pitted, like potatoes, at the end of the season. It may be necessary to water the drills before covering the seed. Allow at least one foot between the lines. The use of a fertiliser raked in hastens the growth.

VEGETABLE MARROWS.—When they first extend wind often damages the growths of marrows; to prevent this make secure with forked pegs, or with sticks thrust in the ground on each side. If the weather is dry and hot mulching and watering must be attended to.

WINTER SPINACH.—Towards the end of the month, in friable soil, make a sowing of prickly spinach. This crop succeeds in ground cleared of early potatoes. When the ground is dug over and made fine, and dressed with soot and wood ashes, the seed may be sown in ruts drawn one foot or fifteen inches apart and about an inch deep. If the soil is dry, water the drills before sowing. This sowing gives an autumn supply, and most of the plants generally remain without bolting on into winter and spring, and yield a supply when the variety of a dish is usually appreciated.

Bees.

By T. MAGUIRE, The Orchard, Enniskillen.

SO far the season has been a favourable one for the bees, though no real glut of honey has come up to the time of writing. It is the month of July that makes or mars the bee-keeper's balance sheet for the year. Strong stocks have been doing very well in this district, notwithstanding the slight coolness of the weather now and then. Some have their second crate ready for completion, and most good stocks have one finished. Swarming has been very prevalent, and this seems to be the greatest worry of all beginners, and a good many older hands too. Some are inclined to get quite into despair over it. If the queen is not clipped, the swarm goes off, and if she is clipped, she gets lost in the grass, with the result that swarming will be worse than ever when the young queens hatch out. It is very hard to get some people to deal with the swarms in the proper way when increasing; they will put it up on a new stand instead of returning it to the old stand, giving it the supers, and moving the old hive to a new position. When this is done almost as much honey is gathered as if the stock were not divided, for all the flying bees are gathering into the supers, whereas under the other plan the best part of the working population are engaged in building out their new home, just at the very time when their gathering services are most needed and would be most effectual.

Most beginners balk at cutting out the queen cells too. It is a very necessary operation if swarming is to be checked. Very often when a stock is about to swarm, if all the queen cells are cut out and a fresh crate of sections given, swarming will be abandoned for the time being. If the first swarm is lost, or put on another stand, it is absolutely necessary to reduce the queen cells, as if left the stock will probably throw several casts according to its strength, and it will be quite useless for gathering purposes for the season. But the hives are now so crowded that timid or inexperienced people dread the operation of pulling them asunder to look for cells, and they let the matter slide, particularly if the bees are inclined to be cross. When handling a wicked stock it is better to use two control cloths, and also to put a carbolic-steeped feather across the entrance before opening the hive. Then, only one frame need be uncovered at a time (using one cloth in front and the other at the back), and the bees never get a chance to come out in force. Sometimes, particularly in very hot weather, a cloth merely damped with water is the most effective in subduing. Some strains of bees are very excitable, and smoke or carbolic fumes set them crazy. Very often they will be quite gentle under the damp cloth. When cutting out queen cells, care should be taken that none are missed; they escape detection very easily, and if allowed to remain may upset calculation. Giving room, shade, ventilation, and attention to the queen cells once a week will carry most stocks through the swarming period.

This month should see the young queens raised and mated.

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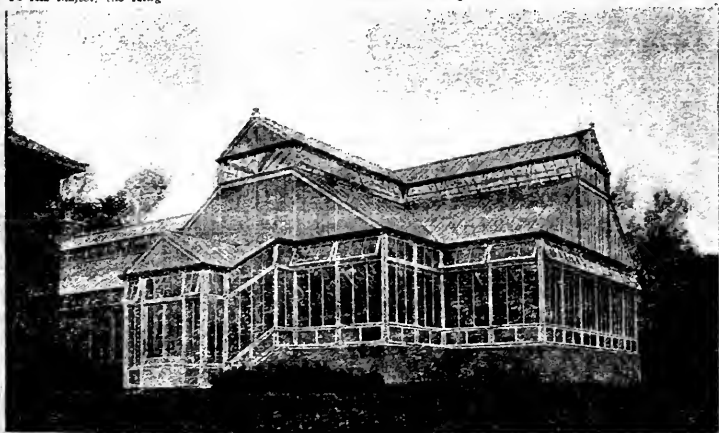


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Irish Gardening

CONTENTS

	PAGE		PAGE
The Tuberous Begonia	113	Notes	124
Current Topics	114	House-flies and Health (Illustrated) .	124
Himalayan Rhododendrons	115	The Month's Work in the—	
Roses	116	Flower Garden	125
Sophoras (Illustrated)	117	Fruit Grounds	126
New Books Reviewed	118	Kitchen Garden	127
Notes from Glasnevin	119	The Herbaceous Border	128
Fruit Crop, 1909 (Report)	120	Bees	128
Fruit Crop Prospects (Schedule)	122	Report of Shows	ix

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1	The Warble Fly.	51	The Leather-Jacket Grub.
2	<i>Out of Print.</i>	52	Flax Experiments.
3	<i>Out of Print.</i>	53	The Construction of a Cowhouse
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock (or Preshaugh) Spraying	56	Cultivation of the Root Crop.
7	Fluke in Sheep.	57	Fruit Packing.
8	Timothy Meadows.	58	Sprouting Seed Potatoes.
9	The Turnip Fly.	59	Seed Testing Station for Ireland.
10	Wireworms.	60	The Packing of Butter.
11	Prevention of White Scour in Calves.	61	Field Experiments—Wheat.
12	<i>Out of Print.</i>	62	Plans for Creamery Buildings.
13	Contagious Abortion in Cattle.	63	"Redwater" or "Blood Murrain" in Cattle.
14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act Regulations, 1907.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
17	The Use and Purchase of Manures.	67	Forestry: Trees for Poles and Timber.
18	Swine Fever.	68	Forestry: Trees for Shelter and Ornament.
19	Early Potato Growing.	69	The Prevention of Tuberculosis in Cattle.
20	Calf Rearing.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
21	Diseases of Poultry—Gapes.	71	Forestry: The Management of Plantations.
22	Basic Slag.	72	Forestry: Felling and Selling Timber.
23	Dishorning Calves.	73	The Planting and Management of Hedges.
24	Care and Treatment of Premium Bulls.	74	Some Common Parasites of the Sheep.
25	Fowl Cholera.	75	Barley Sowing.
26	Winter Fattening of Cattle.	76	American Gooseberry Mildew.
27	Breeding and Feeding of Pigs.	77	Scour and Wasting in Young Cattle.
28	Blackleg, Black Quarter, or Blue Quarter.	78	Home Buttermaking.
29	Flax Seed.	79	The Cultivation of Small Fruits
30	Poultry Parasites—Fleas, Mites, and Lice.	80	Catch Crops.
31	Winter Egg Production.	81	Potato Culture on Small Farms.
32	Rearing and Fattening of Turkeys.	82	Cultivation of Main Crop Potatoes.
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34	The Revival of Tillage.	84	Ensilage.
35	The Liming of Land.	85	Some Injurious Orchard Insects.
36	Field Experiments—Barley.	86	Dirty Milk.
37	" " Meadow Hay.	87	Barley Threshing.
38	" " Potatoes.	88	Instructions for the Home Bottling of Fruit.
39	" " Mangolds.	89	The Construction of Piggeries.
40	" " Oats.	90	Advantages of Early Ploughing.
41	" " Turnips.	91	Black Scab in Potatoes.
42	Permanent Pasture Grasses.	92	Home Preservation of Eggs.
43	The Rearing and Management of Chickens.	93	Marketing Wild Fruits.
44	"Husk" or "Hoos" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
46	Haymaking.		
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
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ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

AUGUST
1901

The Tuberous Begonia.

By WM. DAVIDSON, The Dell Gardens, Englefield Green, Surrey.



HOSE who were privileged to visit the Royal Horticultural Society's Show in the Temple Gardens, in May, could not fail to be impressed with the appearance of these useful plants. The shades of colour which they presented could not be surpassed by

any other flower. It is also evident that the double begonia of a few years ago has changed from a clumsy, shapeless mass of petals to what might be termed camellia-shaped flowers. The stems are also strong enough to support the flowers, so that they are exhibited to the best advantage.

As pot plants begonias continue in flower for a very long period, and as it is not too exacting in its requirements it is an indispensable adjunct to the amateur's greenhouse. After the flowering period is past the plants may be allowed to rest in their pots during the winter, provided these can be stored in a dry, frost-proof place. Tuberous begonia may be started into growth any time from January to March. A mixture of loam, leaf-mould, and sand is usually prepared and filled into boxes to a depth of about two inches. The tubers are then pressed gently on the surface of the compost, and put into a house where a temperature of 55° or 60° can be maintained. A hotbed frame is often found convenient for starting the tubers.

Where large quantities are grown for outdoor planting I have seen the tubers stored in sand during the winter. In the spring, after top-dressing the inside vine borders with fine litter, the begonias were laid out on the litter, care being taken to keep the base of the tuber

downwards. When growth had fairly commenced they were transferred to frames containing a few inches of soil, where they remained until required for planting in summer quarters.

When plants required for potting purposes have made about two inches growth they will be ready for their first potting, and they must not be placed in too large a pot at first. The size of pot will depend on the size of tuber. For ordinary tubers a four-inch pot is usually employed. When roots get through the soil the plants should be transferred to larger pots. The plants should never be allowed to become pot-bound. Seven inch pots are generally found large enough for the final potting. For potting purposes a good fibrous loam and leaf-mould, three parts of the former to one of the latter, with some silver sand added, makes a suitable compost. For the final potting the compost is improved by the addition of one part old cow manure and a small quantity of a good fertilizer.

When the flower buds appear the plants are benefited by frequent waterings with weak soot water. It is necessary to provide some means of shading the plants from strong sunshine during the hottest part of the day, though good light is also necessary to ensure growth of good substance. Cold winds must be prevented from coming in direct contact with the plants; but abundant ventilation is necessary when weather is favourable.

It would be impossible to include the names of all the begonias exhibited at the Temple Show. A selection of the very best kind would include *Avalanche*, an extra large flower of purest white colour. *Millicent*, Mrs. Arthur Hall, and *Marie Nicholas* were fine plants with salmon-coloured flowers. *Patrick Ainslie* had crimped

petals of crimson. Mrs. Whitelaw Reid was of a salmon-pink shade, edged with white. Duchess of Portland was a good red. Mrs. W. L. Ainslie yellow, and Mrs. D. Paterson had pale yellow flowers with rose edge.

During the summer there is always an interesting display of begonias in the greenhouses at the Royal Botanic Gardens, Glasnevin. I had the pleasure of seeing them at their best two years ago. At that time the best-named sorts included Marchioness of Bath, Countess Cromer, and Miss Griffin—all double white flowers of large size. Mr. F. W. Sinnock was a plant of fine habit, with flowers of deep velvety crimson. Frilled Beauty and Hector were good examples of the frilled section. The former had very large flowers of a salmon shade, the latter a fine scarlet. Comtesse O'Gorman was a double yellow of immense size and good form.

Current Topics.

By E. KNOWLTON, F.R.H.S.

"O' true and fervent are the prayers that breathe
Forth from the lips that pale with coming death

THE lines flash up when re-reading the last of those charming articles Miss O'Brien gave to IRISH GARDENING, the particular part of which, pregnant with presentiment, Professor Stockley quotes as a heading to the biographical notes of the gifted Irishwoman (last number). All readers are indebted to Professor Stockley for the way in which he reverently lifts the curtain closed over a good life, and we feel the better for knowing a little more of that lovable nature. One of the writer's earlier recollections is that of a scrap-book with cuttings from *Punch*, one of which was the representation of William Smith O'Brien (the lady's father) as a schoolboy, being packed off to the cellar with the injunction "don't come up again till you're a good boy." (An episode in his Parliamentary career.) It should not, perhaps, be mentioned here. Yet, one feels on reading the brief but touching biography by Professor Stockley—feels with him—"I wish I could but hear her laughing at this little outburst." Wish it—not one but could wish it who followed her in "The Making of Our Home." To the gentle wielder of a graceful pen, farewell—a long farewell!

At last! The centenary of Darwin's birth and jubilee of "The Origin of Species," recently celebrated at Cambridge, seems a recognition of those theories which startled the world and were viewed by some as little short of blasphemy. Well, we live and learn, each generation seeing yet a little farther than its nose, and perhaps the time will come when we shall no longer attempt to measure the infinite by our own poor, little, petty standards. It has been said that "The Origin of Species" upsets "The Six Days of Creation," but a little reflection, surely, will eliminate all ideas of such a catastrophe.

In a bothy library we came across a book by Professor Gausson (to the best of recollection a Swiss clergyman), entitled "The Six Days of Creation," and possibly published some years prior to Darwin's great work, in which the writer interprets the Six Days as six vast epochs of time. It was written in simple language that any lad could understand, and although we left that bothy and little book behind long years ago the memory of it remains and its teaching has always been associated with Darwin's doctrine of evolution—that is, evolution of the simpler and cruder forms of life into the form, law, and order as we see it to-day. Whether the maternal lingual chastisement of "you young monkey," or the compliment oft bestowed that so-and-so is "a hairy one," has any remote connection with our own ancestry we are not disposed to debate; be that as it may, Darwin is recognised, if not universally accepted, but he too, is beyond the pale of praise or blame.

Speaking of books and bothies, by the way, in this Carnegie age—and by the way, too, we thought to have secured a few dollars worth from that freest library man on earth for the Burbidge Memorial Library, but failed in the attempt—that first bothy was very small but very snug; its collection of books very modest, but they were readable. But well we recollect in our anecdote how all that was changed in the next bothy, a comparatively palatial residence with an imposing library which had been furnished with surplus volumes from "the hall"—books in all tongues (Spanish, French, Italian) save our own, and of all ologies save gardenology, although it may not be forgotten that our young propagators were stimulated by a first edition of Fielding's (the father of English novelists) Joseph Andrews, whose virtue is historic. That, needless to say, was in the vulgar tongue (in two senses) for which, alas! there was a strong weakness.

The change of secretaryship in the Irish Gardeners' Association (to which association the Burbidge Memorial Library is attached) is now a current topic among the members. Mr. Hall, who on his retirement as honorary secretary for ten years, leaves it hall-marked (saving his presence) with steady progress, and a sound constitution has been pressed to remain, but is as emphatic as the darkey waiter when repeatedly rung for—"De more dat bell ring de more I won't go"—only unfortunately it's the other way about. But ten years' honorary duties of clerical work and excursion catering is, to say the least, a creditable service to Irish horticulture, and it is now the inevitable. Very pleasant, by the way, have been those excursions, and profitable too; "no profit is where no pleasure is ta'en," said W. S., and it is hoped whoever steps into the shoes of W. S. H. the same and its attendant *bon camarade* may continue.

We caught him thinning his apples, Peasgood's Nonsuch, taking off two out of every three. Said we—"You are preparing for the fruit show in October." Said he—"No; I don't think of showing this year." But there was a contemporaneous twinkle in the blue-grey Irish eye that would make one weep for veracity, only we have it on unimpeachable authority that "all men are . . ." and without even the saving clause that old showmen are exempt. We shall watch those Peasgoods to the finish, which we predict will be Ballsbridge, and the decoration of a first prize card. So be it. And "it's a

grand apple year' we hear from all sides, but "a rotten season for everything else." Well! The apple is as an important a fruit for old Ireland as the pomme de terre, or should be; and there is nothing like a good exhibition to give a fillip to its culture. We hear that "The Department" recognises this to the tune of presenting the prizes in the apple classes for the coming Dublin fruit show, so we trust that our green isle gossamers are within measurable distance of knowing what sport there is in an apple dumpling, as well as saving some of the trouble of our kind-pocketed Colonial cousins in providing window fersts for the gossamers' eyes only. And how they do enjoy them—those red-checked apples in the shop windows! Pretty much on a par with *Punch's* London street-arab, who, standing over an area grating, shouts down—"Hi, cooky, let's get a smell o' the steam while I eat this mouldy crust."

Himalayan Rhododendrons for Exhibition.

By HERBERT H. KIDD.

THE Himalayan section of the genus *Rhododendron* furnishes us with some of the most decorative and interesting members of the Natural Order Ericaceæ. They are eminently suitable for the embellishment of gardens, either outdoors or the cool greenhouse and conservatory. In the latter case, where it is not always possible to put plants out in borders they should be grown in pots and tubs; this would allow them to get the benefit of having their growth thoroughly ripened by being placed outdoors during summer.

Many species possess magnificent foliage, and the trusses of flowers, which are borne freely, vary in size and range in colour from lilac, through all shades of pink, red, yellow, and white, and when cut will last a considerable time. When cut before fully out the flowers will travel well.

In Cornwall and in many other favoured districts of Britain they grow outdoors without the need of any protection whatever, but in more exposed places slight protection is required against late frosts and cold cutting winds, which will injure the young growths and flowers of the early species and hybrids. They are found at the Himalayas at an altitude of 3,000 ft. (*R. formosum*) to 16,000 ft. (*R. anthopogon* and *R. schosum*).

At all times the plants should have every attention in regard to moisture, on no account should dry conditions be allowed to prevail. During hot, dry weather a liberal use of hose or syringe will amply repay. These remarks essentially apply to juvenile plants, fully established adults can naturally stand greater extremes though never improved thereby. When attention is given to moisture, and they are in a suitable rooting medium, which should be a soil containing much humus (peat, leaves), a great deal is done towards their successful cultivation, which in other respects is very easy. Unless plants get very much out of shape pruning will not be necessary.

To obtain magnificent trusses for exhibition purposes the growth must be thoroughly ripened, and where the

natural habit prevents the immediately surrounding surface soil keeping moist, by allowing, through being destitute of lower branches, the emission of the sun's rays, a topdressing of decayed leaves or peaty mixture should be given; being surface rooting, the plants are kept in a more even state of moisture during hot, dry weather. Feeding if required, should be applied in the form of liquid cow manure.

The specimens exhibited at the various horticultural shows in Britain have been produced under natural conditions; no preparation of any kind has been given the plants beyond seeing that they never suffered from a lack of moisture. I wish to impress upon all that difficult cultivation cannot be said to prevent them being grown by anyone who desires to have plants of high decorative value, as Himalayan rhododendrons have proved to be.

It is not possible for me to enumerate here all the good things, but I think the following will suffice. They are all magnificent for exhibition purposes.

SPECIES.

ARBOREUM.—Red, pink and white varieties. All are very free flowering. This species and its varieties are indispensable to any collection or exhibit.

THOMSONII.—Deep red flowers of good substance. There is a form called *unique* which had a red eddy, and being pendulous the flowers appear much like those of a *Lagerflora* when seen from a little distance away.

EDGEWORTHII.—This is a charming species, having large white flowers tinged with yellow, and possessing a beautiful fragrance.

FALCONERI.—This has very handsome foliage, and the cream flowers with purple blotches at base are freely produced.

EXIMUM.—This is distinct from the previously named species, its foliage is more erect, also is later flowering.

GRANDE (*syn. Argenteum*).—This has good foliage which shows to great advantage in a collection. The white campanulate flowers are in good trusses.

GRIFFITHIANUM (*syn. Aucklandii*).—This has the largest trusses of the genus. The flowers are white, tinged with rose, of immense size, and are loosely arranged in the truss.

NUCELLI.—This is a very beautiful species, bearing immense creamy-white flowers. The long tubular corolla suggests *Lilium harrisi*. No great depth of soil is required, as it is found as a straggling epiphyte. It is not so hardy as the rest.

VEITCHIANUM.—The beautiful fragrant white flowers borne make this species worthy of a place in any collection.

NIVEUM is very distinct, bearing pretty lilac flowers.

CAMPYLOCARPUM.—Too much cannot be said of this beautiful species. Its yellow flowers are very freely produced, and good plants in flower are worth going a long way to see.

HODGSONII.—This has pale, purple flowers and very distinct foliage. Is a good strong grower.

HOOKERI.—This is a rare species, bearing red flower, and should be in every collection. Its leaves are nearly like some forms of *Thomsonii*, from which they differ in having glands showing prominently on the nerves on the undersides.

CILIATUM.—White, tinged with rose. This is a very shrubby species, and looks well when planted as an edging to any border of the taller growing sorts. It flowers very freely from quite a small state onwards, and good flowering plants can be obtained in small pots (4⁸ and 5²) for use in rooms, greenhouse, or conservatory.

FULGENS.—This red species forms very attractive bushes.

CINABARINUM. Very distinct in flowers and foliage, orange-yellow.

ROYALE. Sometimes classed as synonymous with previous species, from which it differs in having plum-coloured flowers covered with good bloom.

DALHOUSIE has good taking white flowers of good substance.

The following hybrids are good for exhibition:—

SHILSONII (*varbatum* x *Thomsonii*), red.

MANGLESII (*Griffithianum* x *album elegans*), white, spotted brown.

FORSTRIANUM (*Veitchianum* x *Edgeworthii*).—This is very beautiful, and when well known should become a general favourite. The flowers are large and fragrant; it is well worthy of a place in any collection.

SESTERIANUM (*Ciliatum* x *Edgeworthii*), fragrant white flowers.

The following hybrids are among the best raised at Tremough; all have very large flowers and trusses:—

GILI'S TRIUMPH.—Immense flowers of a brilliant red colour; gigantic truss.

BEAUTY OF TREMOUGH. This should become a great favourite, being of a most pretty pink, margins of petals of deeper shade.

GLORY OF PENJERRICK.—Pink flowers of good texture.

KEWENSE (*Griffithianum* x *Hookeri*).—This beautiful hybrid should be in every collection. Flowers are white, flushed pink, and are of good size and substance.

Roses.

By O'DONEL BROWNE, M.D.

IT was a great pleasure to see so many novices showing at the recent Dublin rose show, and it augurs well for the good influence that this paper has done amongst amateur rose-growers throughout Ireland. What particularly struck me was the good way these novices went to work; but there were a couple of boxes which could have been better put up and more neatly done. Let us hope that they saw how shoddy their boxes looked. Now that the show is over it is no use my giving any hints on staging; better for me to try and help these novices with a few hints of a different kind. Firstly, as to the increase of their stock for next year. If you are to bud, then put on plenty of buds of any one particular variety rather than a few of many different kinds. Propagate varieties such as Dean Hole, Lyon Rose, Hugh Dickson, William Shean, Mrs. David McKee, Mme. Melaine Soupert, George C. Waud, Mrs. Theodore Roosevelt, Marquise Jeanne de la Chataignerye of each a goodly number; whilst amongst Teas put on a good many Mrs. E. Mawleys, Sour de Pierre Notting, Maman and White Coquets, Harry Kirk, Mrs. Myles Kennedy, and if you have

standards for some try Mme. Cusin and Comtesse de Nadailac. Cease budding inferior sorts—the modern rose has come to stay, and in a few years we shall not have anything but these newer varieties. Do not forget some Climbers such as the Climbing Mrs. W. J. Grant, Mme. Wagram, Mme. Jules Gravereaux, and Climbing K. Augusta Victoria. Get your stocks budded off as early as you can, and in budding try and work from shoots which have thrown good flowers. With the plants you have your time will be taken up attending to them to keep them free from mildew (for this I advise you to spray the under surface of all the leaves three nights running with *pure sulphuric acid*, one half teaspoonful; *lysol* (to be had at any chemist's), one wineglassful; *water*, preferably rainwater, 3 gallons. Be careful of the acid; it will burn everything such as metal if used too strong, and *mind your hands* as well. See to your Climbers. Remove all shoots that have flowered, and lay the young ones in safety to their support, and keep them plentifully supplied with water to encourage growth. Make careful observations of how such and such a variety has done. This will help you next year. Do not get lazy now that the show has gone, and neglect your trees; be more than attentive, for you have yet to mature and ripen the shoots for next year. Keep your beds hoed as often as you can, and you will be rewarded by a grand display in the autumn. Do not allow hips to remain; these if left seriously interfere with your tree's nurture. Study an old hand at one of your shows whilst he is staging his flowers. You will learn more by watching him than by any other way.



FEEDING SWEET PEAS.—A correspondent tells us that when his sweet peas lag in growth he used superphosphate of lime as a stimulant with marked results. He waters with a solution made up of 1 oz. to the gallon of water and applies once a fortnight during the flowering season.

THE TREE LUPINE is a singularly decorative plant, especially in the borders of shrubberies. It forms a roundish bush from two to four feet high. It covers itself with abundance of yellow flowers produced in erect terminal racemes. They are sweetly fragrant. There are also white-flowered forms. The plants are natives of California, and should, therefore, be given sunny positions sheltered from prevailing winds. Lupines of all kinds appear to thrive best in a soil devoid of, or at least containing little, lime.

Oh, for a breath of the moorland,
 A glimpse of the mountain grey,
 For the thyme and the fragrant myrtle
 That scent the wanderer's way.
 Oh, for the grey loch sleeping
 Where the swallows swim and glide,
 For the bracken softly swaying,
 On the mountain's rugged side;
 For the sound of the burn that wimples
 And sparkles in its fall,
 For the gleam of the purple heather
 Where the lonely curlews call!

—Cuthbertson.

Sophoras.

By C. F. BALL, Botanic Gardens, Glasnevin.

SOPHORA TETRAPTERA, sometimes known by the name of *Edwardsia grandiflora*, was introduced from New Zealand in 1772 by Sir Joseph Banks. In its native home it forms a tree of considerable size and goes by the name of "Houma."

The Irish climate seems to suit this tree admirably: in the colder districts it requires a south or west wall. At the present time, May 25th, it is in full flower, and is flowering unusually well at Glasnevin this year. It was originally planted against a wall about 12 feet high, but overgrew this protection, and now reaches 26 feet in height. Where protection is afforded by the wall the tree is ever-green, above the wall it is quite deciduous. The foliage is rather pretty, the leaves being pinnate, bearing numerous small leaflets. The flowers are freely produced in short pendulous racemes, each flower being of a golden colour about 1½ inches long. In autumn the plant produces a curious pod-like fruit, constricted about each seed, and distinctly 4-winged, the latter character explaining the origin of the specific name.

Sophora tetraptera, var. *microphylla*, also

goes under the name of *Edwardsia Macnabiana*. It is a strikingly handsome tree or shrub, and is distinguishable from the ordinary type by its nearly equal petals and by the wide separation of the petals of the keel and flowers when in full leaf. The more open flower gives the plant a more showy appearance.

Sophora japonica is the Chinese or Japanese Pagoda tree, and is a fairly common deciduous tree, reaching 30 to 50 feet high. The leaves are pinnate, of a deep bluish green, and the naked bark is of a dark green. In August and September the cream coloured flowers are produced on loosely branched panicles; the flowers seem to be produced more freely as the plant attains a fair size. There is a beautiful weeping variety called *S. japonica pendula*. Among recent introduc-

tions from China is *Sophora vicifolia*, which promises to be a useful, hardy shrub. It has small pinnate leaves and tiny white and violet blossoms.



A HANDSOME BROOM.—A correspondent writes warmly recommending *Cytisus sessilifolius* as a highly ornamental shrub. Its flowers are produced in terminal racemes, and have the colour of rich gold, and as they appear rather late in the year they come in at a time when other brooms are in pod, and therefore prolong the season of this strikingly handsome genus.

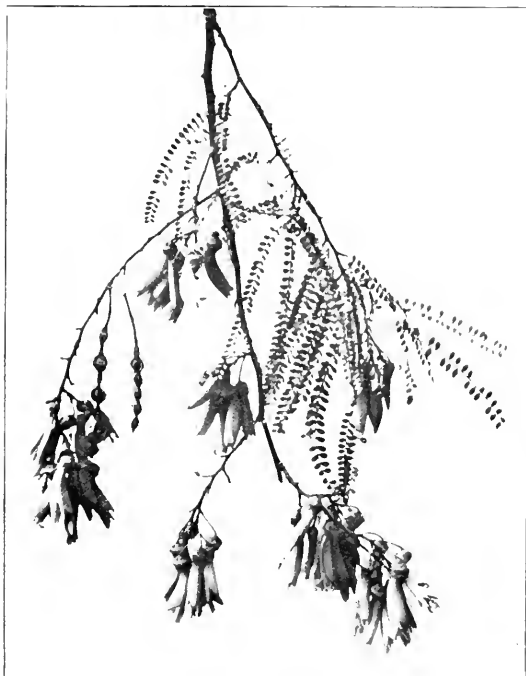
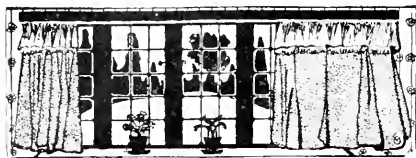


Photo by]

SOPHORA TETRAPTERA.

[C. F. Ball



The Reader.

FERTILISERS AND MANURES. By A. D. Hall, Director of the Rothamsted Experimental Station. London: John Murray.—This important work is issued as a companion to the author's well-known book on "The Soil." It forms a complete treatise on the subject of fertilisers and manures, and has been written for the use of farmers and others engaged in the cultivation of crops and for the senior pupils and teachers in agricultural schools. It deals with the subject scientifically, but the matter is presented with such remarkable clearness that the general reader will have no difficulty in understanding the principles involved and in applying the knowledge so obtained to his own particular conditions of soil and cropping. The book consists of thirteen chapters, the first chapter being devoted to an introduction in which the plants' relation to the soil is described in a most interesting way. This is followed by chapters dealing with the three important fertilising substances—nitrogenous, phosphoric, and potassic—in which the functions, values, methods of application, &c., of these respectively are fully set forth and explained. Chapter seven (farm-yard manure) will be of particular interest to market gardeners. It deals very fully with the subject, and gives information that up-to-date growers can hardly afford to disregard in practice. Other chapters deal with guano, lime, theories of fertiliser action, systems of manuring crops, and valuation and purchase of fertilisers. The results of the long series of accurate manurial experiments conducted at Rothamsted have been largely drawn upon by the author in elucidation of the general principles laid down in this volume. We know of no other work in which the subject of manures is so thoroughly and interestingly dealt with. There is no attempt at "popular" writing on the one hand or of chemical jargon and dry technicalities on the other, it is simply a straightforward story of the subject addressed to an intelligent audience supposed to be already interested in all that concerns the successful cultivation of crops. Some previous knowledge of the rudiments of chemistry will, of course, be necessary to enable the reader to follow the reasoning, but the applications are so plainly presented that, as before said, even the non-chemical reader will learn much by a careful perusal of its pages. The book is printed in large, clear type on stout paper, tastefully bound in brown cloth, and sold at five shillings net.

DUTCH BULBS AND GARDENS.—Painted by Mima Nixon, described by Una Silberrard and Sophie Lyall. London: A. & C. Black. Price 7/6 net.—The chief interest of this handsomely produced volume lies in its

coloured illustrations, of which there are twenty-four. The original paintings are delicately reproduced in all their vivid colouring and charming picturesqueness. Some are of gardens, but the majority represent "bits" of country in the bulb-growing district of Haarlem, at a time when "in emerald tufts, flowers purple, blue and white, like sapphire, pearl and rich embroidery," give character and colour to the landscape. The letter-press consists of the book proper, written in a "popular," chatty style, and appendices dealing historically with the culture of hyacinths at Haarlem, and with the tulip and hyacinth trade of Holland from the seventeenth to the nineteenth century. It is not a gardening book in the ordinary sense but a work that will interest those who have visited or intend to visit the bulb-growing centre of Holland, or those who can only hope to get a reflected knowledge of this delightful little country by the perusal of such pages as these three observant and talented ladies have provided for our edification and pleasure. When it is remembered that the whole kingdom of Holland is less than half the size of Ireland, and that it supports a population slightly greater than ours, one recognises how closely this population must press upon the means of subsistence, and that it is only by persevering industry and strictest economy that the Dutch people can exist and flourish, as they certainly do. Our authors, speaking about the bulb growers at Haarlem, summarise their impressions thus: "This then above all things strikes one. A grower is a man steeped in his work; he lives in the midst of it, he rises with it and goes to bed with it. On his few holidays he goes to see the achievements of others in or, better still, the working of nature. He goes to see other things too. No doubt he has other interests—pictures or music, or literature or languages. He is no narrow, uncultivated man; but his work stands first—a long, long way first—he and it are curiously and indissolubly one."

FRENCH MARKET GARDENING. By John Weathers. London: John Murray. 3s. 6d. net.—Quite a number of books has recently appeared on the subject of "French" gardening, the present being the latest and best. Mr. Weathers is not only a good writer but a good gardener as well, so that the contents of this stout volume are systematically arranged and the matter presented in clear English, pleasingly free from the exaggerated language too often adopted by writers on the kind of intensive culture associated with the descriptive term "French." The book is divided into three parts, the first being devoted to generalities—soil, manures, cost, marketing, &c.—the second to "special cultures" dealing in detail with the cultivation, &c., of the different vegetables usually grown in "French" gardens, while the third part gives a calendar of operations and a plan of a French garden. Fifty-seven illustrations are scattered throughout the text.

The book should prove useful not only to the market gardener, but also to the private gardener and to the amateur. Its perusal is almost certain to suggest new methods or modifications of existing methods, such as intercropping, the use of the cloche, the raising of early vegetables in hot beds, &c. Certainly a great deal more might be done in this country in the way of raising

tender salads in early spring by the adoption of some of the methods described in this volume.

French gardening, however, as a means of earning a livelihood is exceptionally hard work, and only those who are prepared to toil incessantly all days and all weathers should entertain the idea at all. In the market gardens in the suburbs of Paris the work is carried on by men, their wives and daughters, and the working hours are exceedingly long—in fact from day-break to dark throughout the whole round of the year. When the evenings get long the "spare" time is occupied in making mats, shifting soil and manure, packing produce for market, &c. The rent of land near Paris is very high (£30 40 per acre), the French growers therefore can neither afford to lose time nor waste ground (paths are frequently reduced to 9 inches wide, the manure being carried on shoulder baskets throughout the plots) in the prosecution of their calling. French gardening as practised round Paris is hardly likely to get acclimatised in Ireland, yet there is much to be learned from a study of the system, and there is no book written in English from which a more authoritative account may be obtained than from the work under review.

PRACTICAL SCHOOL GARDENING. By Percy Elford and Samuel Heaton. Oxford, at the Clarendon Press. Price 2s.—The rapid spread of school gardens within the last decade has produced a crop of text-books more or less suited to the requirements of the schools. As yet no writer seems to have caught the full and true spirit of school gardening as an educational method. The ideas of these book-makers are of gardening rather than of education. They, therefore, to that extent fail as safe leaders in a movement having such splendid possibilities for rural schools. The object of school gardening is not so much to teach gardening as to interest the child in life, to encourage original observation, to experiment, and to draw correct inferences from the things seen—in other words, to teach the child to think for itself, to be self-reliant, and to be intelligently interested in the processes of growth and development of crops. Our present authors, in their introduction, seem to appreciate all this, but in the preparation of their chapters they seem at once to fall back on the ordinary and easier plan of simply writing a text-book on horticultural operations. This is all the more regrettable, as the work has been primarily written for elementary school teachers, who, by adopting this as a text-book, will naturally follow its methods in their own teaching. The right note is struck in a short essay on "The School Garden and Discovery Lessons" by P. E. Meadon, inserted as an appendix at the end of the book. This ought to be carefully studied by all teachers who intend taking up school gardening as a subject of class instruction. So far as is attempted the work in this book is carefully done. There is a large number of illustrations, although some appear to be of very little value—for example, do the authors expect any reader to be able to recognise any one of the eighteen varieties of apples from the illustrations on page 116? or the twelve pears shown on page 121. And, again, why should a whole page be devoted to the illustration of a wheel-barrow and a watering pot!

Notes from Glasnevin.

Shrubs.

Carpenteria californica.—This shrub can be well recommended as an evergreen for sheltered and favoured localities. At Glasnevin, planted in a warm border, it flowers well, and during July is covered with large, white, waxy flowers with yellow stamens. The leaves are lanceolate, and of a bright shining green. This plant is a native of California, and was introduced into cultivation in Europe by Max Leichtlin, of Baden Baden, to whom we are indebted for many good garden plants. The plant is figured in the Botanical Magazine, T. 6011, from specimens received from Miss Jekyll, of Surrey, where the plant flowered at an elevation of 400 feet above sea level without protection.

Olearia macrodonta.—This shrub is one of the many introductions from New Zealand, which at Glasnevin and in other parts of Ireland flowers freely in the open without protection of any kind. The leaves are holly-like, the undersides being a soft grey green. The sweetly-scented flowers are white, borne in clusters. When healthy the plant grows quickly, and in a comparatively short time will form a bush from 7 to 10 feet high. It is also figured in the Botanical Magazine from specimens taken from a plant presented to Kew by Mr. W. E. Gumbleton, of Queenstown.

Olearia stellulata is better known than the foregoing species, and is almost common in gardens. It is undoubtedly one of the freest blooming shrubs we have, and in early summer the whole plant is often covered with white daisy flowers. It is a native of Australia, perfectly hardy, forming sometimes quite large bushes.

As well as the shrubs here mentioned, we may note in flower now at Glasnevin a large bed of the H. P. Frau Karl Druselki rose. This rose is a strong grower, the large flowers are borne in quantities, and are all well shaped. At the summer show of the Royal Horticultural Society, held in Merriem Square on the 20th July, this rose figured strongly as the best white. At Glasnevin not only are the flowers large and well-formed, but the succession of bloom extends over a considerable period. One point not in its favour is the fact that, like so many of the newer roses, it is scentless.

R. M. POLLOCK.



THE DEAN HOLE MEDAL.—In commemoration of the long services of the late Dean Hole as president of the National Rose Society, that society has decided to present from time to time a medal, to be known as the "Dean Hole Medal," to such rosarians as have rendered "substantial service" to the cult of the rose. The first recipient is the Rev. J. H. Pemberton in recognition of his work on "Roses, their History, Development, and Cultivation," which was reviewed in these pages on its publication last year.

NATIONAL VEGETABLE SOCIETY.—A new society to further the progress of vegetable culture has been formed under the above title. The subscription is 5s. a year, and the Hon. secretary is Mr. E. G. Quick, Harrow View, Wealdstone, Harrow.

“IRISH GARDENING.”

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Fruit Crop, 1909.

WE wish to draw our readers' attention to our usual annual Report on the fruit crop, based upon information obtained from correspondents throughout the whole country. The individual reports are tabulated on pages 122 and 123. From these returns and from further information supplied concerning the most troublesome fruit-pests of the year Mr. W. S. Irving has drawn up the following general summary of the material to hand. We are very much indebted to Mr. Irving and to the numerous correspondents who so courteously responded to our request for information.

Up to the present date the fruit crop of 1909 has been very good, while the prospects of an abundant harvest of later fruits are certainly good, and may even turn out to be very good. The weather, on the whole, has been favourable, the only drawback being that the summer temperature has been somewhat lower than usual, and therefore growth has been slower and the ripening of fruit has been delayed.

The weather, of course, is always the chief immediate factor in determining the quantity and quality of the crop, and this year the relation between the two is clearly evident.

February was a dry month, and this circumstance enabled work in the orchard to proceed uninterruptedly, and was therefore, so far, an advantage, especially as the two following months were wet. But not only were March and April wet, they were cold as well, and this latter condition tended to delay the opening of the fruit buds, thus enabling them to escape injury from frosts.

Early flowers, unless protected, were in all cases destroyed by the combined action of wetness and low temperature. The month of May was much drier, but cold nights continuing the flowers were still further retarded, with the result that the general flowering period was late

in all orchards. But the continuous cold was apparently the salvation of the fruit crop this year, as the unopened buds were just able to escape the latest killing frosts. The weather of June was fairly good for growth. Bush fruit made up much leeway, black currants ripening rapidly, and the fruit picking in the south was a few days earlier than last year, though strawberries, raspberries and gooseberries were much later.

APPLES in general are a good crop, in fact one of the best for some years, especially on young trees (many of which need thinning), and if we get a good autumn there should be some good fruit in the country this year. If anything, the crops are better in the south than in the north, though in the Suir Valley a severe hail storm on 22nd June destroyed much of the best fruit for exhibition purposes. The following varieties are bearing very well:—Bramley's Seedling, Lane's Prince Albert, Lord Derby, Lord Grosvenor, Early Victoria, James Grieve, Worcester Pearmain, Cox's Orange, Allington, Stirling Castle, Bismarck, and Duchess of Oldenburg. Old grass orchard trees are bearing an average crop.

PEARS are about an average in general, and much better than last year. They are very irregular, some trees bearing a heavy crop, whilst others have very few fruits on them. There is a better general crop in the south than in the north.

PLUMS are a good crop in general, especially Victoria, which is bearing well. There is every prospect of some good plums in Co. Meath. Damsons are bearing heavy crops in general, even in places where there are only medium crops of plums.

CHERRIES are the best crop we have had for years, the cold weather retarding the flowering period, and the fruit set well. The fruit is of good quality, too, though black-fly did much damage to the shoots in some districts.

GOOSEBERRIES have been a bumper crop almost everywhere, but more especially in the north, where they are grown in large quantities. They are almost a glut on the market, consequently prices are very low—really too low to leave much for a margin of profit to the grower. American gooseberry mildew has played much havoc with them; many of the plantations throughout the country have had to be destroyed so as to prevent the disease from spreading.

CURRANTS.—All varieties bear a fairly good crop, though in some districts the flowers were frozen, and later were also much injured by being severely attacked with aphid. The blacks suffered most in this respect, but have ripened up fairly well, and, where the bushes have been well-manured and pruned, heavy crops of good fruit have obtained.

RASPBERRIES in most cases are either good or very good or little better than last year, and only a little dry weather is wanted now to allow the growers to finish the gathering and marketing of them, though prices are very low. The late frosts ruined the early flowers in many plantations thus, not only lessening the yield, but delayed for some days the first picking of fruit,

which is very important to the market grower. The crop was much reduced by many of the canes being killed in winter and failing to break away in spring.

STRAWBERRIES have been from an average to a good crop in most districts, though one fears the area under cultivation is gradually decreasing. Owing to the lateness of the season and cold frosty nights killing many of the early flowers, the crop was late in ripening; this allowed the cross-Channel and French growers to get good prices for their fruit before ours was placed on the market, though good home-grown fruit brought the highest price. The crop in the South has been a very good one, much better than in the North, but in general not so good perhaps as last year.

Fungoid diseases appear to be on the increase. Apple canker and American gooseberry-mildew are doing most damage, as these are reported from almost every county. Apple and pear scab is also very prevalent, and nothing as yet has been discovered as a remedy for it. Apple-mildew is fairly plentiful in some places, and silver-leaf in plums appears to be increasing. Canker is returned by 22 per cent. of the correspondents, gooseberry-mildew by 24 per cent., and scab by 15 per cent., as being the "worst pests."

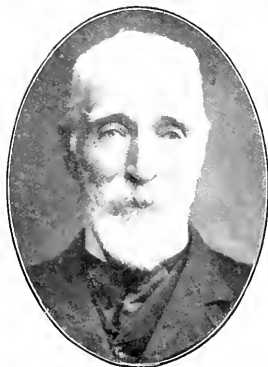
Insects in general have not been so plentiful as in recent years. This state of affairs is undoubtedly due to the timely action of growers—by spraying with caustic-wash in the winter, and with suitable insecticides during the growing season. The winter spraying keeps the bark of the trees clean, and the further seasonal sprayings kill the insects before they have time to do much damage.

Greenfly has been most troublesome this year, and there are very few plants that have escaped from its ravages, even where repeated spraying has been carried out. Their spread was much favoured by the continued harsh, dry weather of May and June. Plums, apples, currants and gooseberries suffered most. Winter and Tortrix moths (leaf rollers), American blight on apples, and sawfly caterpillars on gooseberries were the worst offenders, but growers who used arsenate of lead as a spray had comparatively little trouble with them. Greenfly is reported by 36 per cent., sawfly by

35 per cent., and winter moth by 20 per cent. of our correspondents. Apple-sucker is much more prevalent in the North than in other parts of Ireland.



It is with deep regret that we record the death of Mr. Patrick Gray at his residence in Dublin on Tuesday, the 20th of July last. Mr. Gray was well known as the Horticultural Superintendent at the "Albert Model Farm," Glasnevin, and afterwards when the institution was taken over by the Department of Agriculture and re-named the "Albert Agricultural College." Mr. Gray continued as head of the gardening staff until his retirement two years ago. Mr. Gray was an experienced gardener and a conscientious teacher, who did much good work in his time for the cause of gardening in Ireland. His family will have the sincere sympathy of all who knew him either as a teacher or a friend—and they must be many and widely scattered throughout Ireland. Mr. Gray was an occasional contributor to the pages of this journal.



THE LATE PATRICK GRAY.

Those of our readers who visited the spring show of the Royal Horticultural Society of Ireland will remember the fine exhibit of Himalayan rhododendrons staged by Mr. R. Gill of Tremough Gardens, Penryn. On sending a request to Mr. Gill for the favour of an article for the guidance of exhibitors he very kindly arranged that his foreman (Mr. Herbert H. Kidd) would prepare one for IRISH GARDENING. This article appears in the present issue. Mr. Kidd is an old Kewite, whose knowledge of the subject he writes upon is "extensive and peculiar," and his contribution will be read with interest by all gardeners.

IRISH roses this season have not only sustained their already high reputation but actually enhanced it. At the English shows they have taken all the premier honours and prizes. We sincerely congratulate the three firms that have met with such extraordinary success wherever they have exhibited—Messrs. Alex. Dickson & Sons, Hugh Dickson, and Messrs. McGredy & Son.

ONE of the most important shows, and certainly the most remarkable and successful one in Ireland, will be re-held during the present month at Athlone. Last year there were over 2,000 entries, including horticultural, industrial, and other exhibits. It is a great event in the midlands, and we wish it its usual success. Intending visitors can obtain full particulars from the secretary, Mr. Harold Smith, Athlone.

Fruit Crop and Fruit Crop Prospects (Ireland), 1909

NOTE.—The date of this Report may be taken as the 12th July. In order to secure as much uniformity as possible in the Returns a scale of descriptive terms was agreed upon, viz.:—Very good, good, average, below average, bad. The names of County Horticultural Instructors are starred (*).

County and Locality	Apples	Pears	Plums	Cherries	Gooseberries	Currants	Raspberries	Strawberries	Names of Correspondents
ULSTER.									
<i>Armagh</i> —County	Good	Average	Good	Good	Good	Average	Average	Average	J. HAGAN*
Annamahone . . .	Average	Average	Plums—av.	Good	Very good	Good	Average	Average	J. J. W. DE SLIP
Richhill	Very good	Below av.	Damsons— Very good	None growth	Enormous	Good	Very good	Average	LAMB BROS.
Loughgall	Good	Average	Good	Very good	Very good	Very good	Average	Below av.	W. R. SPENCER
<i>Antrim</i> —North . . .	Good	Bad	Good	—	Very good	Very good	Good	Good	REV. W. MARTIN*
Crumlín	Very good	Average	Good	Average	Very good	Average	Good	Average	H. DEW
South	Very good	Average	Good	—	Very good	Good	Average	Average	REV. W. MARTIN*
<i>Caran</i> —County . . .	Very good	Below av.	Below av.	—	Very good	Very good	Good	Average	MISS DOUGLAS*
Ballyhaise	Very good	Below av.	Bad	Good	Very good	Good	Very good	Good	J. FORBES
<i>Donegal</i> —County . .	Good	Bad	Good	Good	Very good	Average	Average	Average	P. J. O'CARROLL*
<i>Derry</i> —County . . .	Very good	Average	Average	Very good	Very good	Very good	Very good	Good	FRANK W. WARD*
Moneymore	Very good	Good	Very good	Very good	Very good	Very good	Very good	Below av.	J. RUTHERFORD
North	Good	Good	Average	Average	Very good	Very good	Average	Average	G. DANIEL
Lisburn	Good	Average	Average	Average	Very good	Very good	Average	Average	S. TODD*
Hillsborough	Very good	Average	Average	Average	Very good	Very good	Very good	Very good	J. LYONS
Orangefield	Extra good	Extra good	Extra good	Average	Very good	Very good	Good	Very good	T. BRADSHAW
Orangefield	Very good	Below av.	Below av.	Very good	Very good	Very good	Below av.	Very good	D. BAILEY
Orangefield	Very good	Average	Below av.	Very good	Very good	Very good	Very good	Average	T. W. BOLAN
Orangefield	Very good	Good	Below av.	Very good	Good	Average	Average	Good	P. BROCK*
Orangefield	Very good	Good	Very good	Very good	Very good	Good	Very good	Good	A. REID
Orangefield	Very good	Below av.	Good	Very good	Very good	Very good	Very good	Very good	J. TONAR*
Orangefield	Good	Average	Average	Average	Good	Below av.	Average	Very good	J. HEBBURN
Orangefield	Good	Good	Average	Average	Good	Below av.	Good	Bad	S. MAGILL*
Orangefield	Very good	Good	Very good	—	Very good	Below av.	Good	Very good	D. McLEARN
Orangefield	Good	Very good	Average	Good	Very good	Below av.	Good	Good	F. W. WALKER
Orangefield	Good	Average	Average	Good	Very good	Very good	Good	Good	J. BLEMENS*
Orangefield	Very good	Bad	Average	Bad	Good	Good	Good	Good	J. BRACKEN*
Orangefield	Very good	Very good	Good	Average	Very good	Very good	Very good	Average	I. A. BEAMISH
Orangefield	Very good	Average	Average	—	Very good	Good	Good	Average	W. BESWICK
Orangefield	Very good	Good	Very good	Below av.	Very good	Very good	Very good	Average	G. FRIEZE
Orangefield	Very good	Good	Good	Good	Very good	Good	Very good	Average	G. LONAN
Orangefield	Very good	Average	Very good	Average	Extra good	Very good	Good	Average	J. S. LINCOLN
Orangefield	Very good	Very good	Very good	Average	Average	Good	Good	Average	A. BARRER
Orangefield	Very good	Good	Good	Very good	Very good	Very good	Very good	Good	P. CARTER
Orangefield	Very good	Average	Bad	—	Very good	Average	Average	Good	J. QUINLYN
Orangefield	Very good	Average	Average	Average	Very good	Very good	Very good	Good	A. J. EDGAR
Orangefield	Very good	Average	Average	Average	Very good	Very good	Average	Average	W. F. EARLE*
Orangefield	Very good	Good	Good	Good	Extra good	Very good	Good	Good	D. SHEPARD*
Orangefield	Very good	Average	Average	Bad	Very good	Very good	Good	Good	J. J. CAROLAN*
Orangefield	Very good	Good	Good	Good	Very good	Very good	Very good	Very good	J. S. HERLAND*
Orangefield	Very good	Good	Good	Good	Very good	Very good	Very good	Very good	J. HAYDEN
Orangefield	Very good	Good	Good	Below av.	Very good	Very good	Very good	Very good	R. TOWNSEND
Orangefield	Very good	Average	Average	Bad	Very good	Very good	Average	Average	
MUNSTER.									
<i>Cork</i> —East	Very good	Bad	Average	Bad	Good	Good	Good	Good	J. BLEMENS*
West	Very good	Very good	Good	Average	Very good	Very good	Very good	Good	J. BRACKEN*
Queenstown	Very good	Average	Average	—	Very good	Good	Good	Average	I. A. BEAMISH
Fota Island	Good	Good	Very good	Below av.	Very good	Very good	Good	Average	W. BESWICK
Clonakilly	Very good	Good	Good	Good	Very good	Good	Very good	Average	G. FRIEZE
Ballaonra	Very good	Very good	Very good	Very good	Extra good	Very good	Good	Average	G. LONAN
Mitchelstown	Very good	Average	Very good	Average	Average	Good	Good	Average	J. S. LINCOLN
<i>Clare</i> —									
Garrigolan	Very good	Good	Good	Very good	Very good	Very good	Very good	Good	A. BARRER
Drumoland Castle . .	Very good	Very good	Very good	Very good	Very good	Very good	Very good	Very good	P. CARTER
Newton-Town-Fergus . .	Very good	Average	Bad	—	Very good	Average	Average	Good	J. QUINLYN
<i>Kerry</i> —									
Killarney	Very good	Average	Average	Average	Very good	Very good	Very good	Good	A. J. EDGAR
County	Very good	Average	Average	Good	Very good	Very good	Average	Average	W. F. EARLE*
<i>Limerick</i> —County . . .	Good	Good	Good	Good	Extra good	Very good	Good	Good	D. SHEPARD*
<i>Tipperary</i> —North . . .	Good	Average	Average	Bad	Very good	Very good	Good	Good	J. J. CAROLAN*
South	Very good	Good	Good	Good	Very good	Very good	Very good	Very good	J. S. HERLAND*
Nenagh	Good	Good	Good	Below av.	Very good	Very good	Very good	Very good	J. HAYDEN
Templemore	Good	Average	Average	Bad	Very good	Very good	Average	Average	R. TOWNSEND

Walsford - County . . .	Very good	F. HUDSON
Curraghmore . . .	Very good	D. CROMIE
Dungarvan . . .	Good	P. LYSCH
Dromana . . .	Very good	G. MACDONALD
LEINSTER.		
Carlow - County . . .	Very good	J. McKENZIE
Millford . . .	Very good	J. MOORE
<i>Dublin</i> - . . .		
St. Anne's . . .	Average	A. CAMPBELL
Vice-Regal Lodge . . .	Good	D. WAT
Obelisk Park . . .	Very good	S. DAVIS
Broomstown . . .	Very good	W. USHER
Clonsilla . . .	Average	J. DESI
Carton . . .	Good	A. BLACK
<i>Kildare</i> - County . . .	Below av.	W. TYNDALL
Moore Abbey . . .	Very good	C. PILGRIM
Norney . . .	Below av.	P. FARRELY
Kilmorony . . .	Very good	P. CONNOR
<i>Kilkenny</i> - County . . .	Very good	T. REA
Kilkenny Castle . . .	Good	E. SULLIVAN
Flood Hall . . .	Very good	J. DEARNEY
Piltown . . .	Very good	E. CLARKE
<i>King's Co.</i> - . . .	Very good	W. JOHNSON
Charleville . . .	Very good	J. HURLEY
<i>Louth</i> - County . . .	Below av.	J. B. CLARK
Longford - County . . .	Good	J. POW
<i>Louth</i> - County . . .	Good	P. J. CLUSCH
<i>Meath</i> - County . . .	Good	M. McKEOWN
Dunsany Castle . . .	Good	W. LAUDER
Corbanagh Hall . . .	Good	
Rathgeigh . . .	Bad	
Summerhill . . .	Average	
<i>Queen's Co.</i> - . . .	Very good	W. BRADBROOK
Enno Park . . .	Very good	T. RYAN
Brockley Park . . .	Average	P. J. CALLAN
<i>Wexford</i> - County . . .	Good	G. BODF
Pakenham Hall . . .	Very good	W. HILLACK
<i>Wexford</i> - County . . .	Very good	J. McLENNAN
Castle Boro' . . .	Average	S. COLE
Courtown . . .	Very good	T. TURNER
Arkandisk . . .	Very good	E. SLAVIN
Johnstown Castle . . .	Very good	D. LYSCH
Broadway . . .	Below av.	P. CULLEN
<i>Wicklow</i> - County . . .	Very good	R. SHIVAN
Shiloh Abbey . . .	Average	
Glennart Castle . . .	Average	K. WILLIEM
CONNUGHT.		
<i>Galway</i> - County . . .	Very good	P. J. McNICOLLAS
Mount Bellew . . .	Below av.	P. QUINLY
Ashford . . .	Very good	M. D. REID
<i>Mayo</i> - County . . .	Very good	M. JORDAN
<i>Roscommon</i> - County . . .	Very good	E. H. BOWERS
Oaklands . . .	Good	MRS. SMITH
Frenchpark . . .	Very good	T. ROGERS
<i>Sligo</i> - County . . .	Very good	J. J. CURLEY
Markree Castle . . .	Very good	H. COUSIN

Notes.

Formalin: Its Nature and Use.

A CORRESPONDENT asks—"What is formalin that one hears so much about lately as a disinfectant and fungicide?" Formalin is the commercial name of a definite mixture of formaldehyde and water. Formaldehyde is derived from methane or marsh gas which every one has seen escaping in the form of bubbles from stagnant water when stirred. The chemical formula of methane is CH_4 and of formaldehyde CH_2O . Formaldehyde is a gas which under the influence of

bodies. All foods particularly should be kept away from flies. Comparative freedom may be secured by the use of a weak solution of formalin placed in saucers about the rooms visited by flies. The strength used may be two teaspoonfuls to a pint of water. The flies are attracted to the fluid, drink, and almost immediately die.

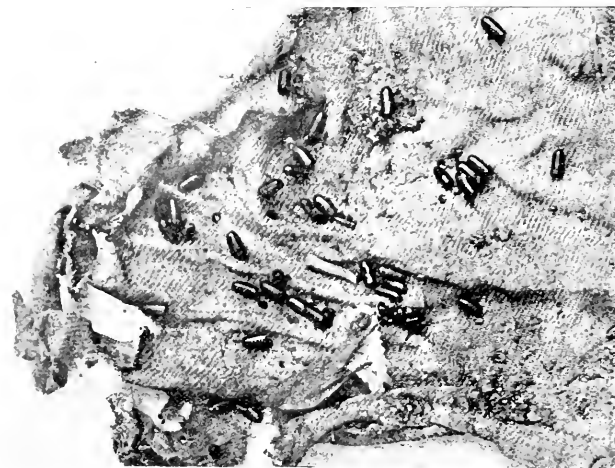
THE "GREENING" OF "SEED" POTATOES.—Mr. Geo. Massee, in an article in the current number of the journal of the (English) Board of Agriculture, describes a series of experiments recently carried out at Kew, with the object of ascertaining in what particular manner the "greening" of potatoes intended for "seed" proves

beneficial to the grower. As is well known the skin of a potato is of a corky nature, and cork is a substance impervious to water, and if thick enough practically impervious to air as well. The "greening" of a potato tuber has the effect of thickening its skin, and it is to this thickening apparently that the resulting advantages of "greening" arise. Because, firstly, the thickened skin prevents loss of water, and secondly, by checking gaseous interchange between the air inside and outside of the tuber, the growth of sprouts from the eyes is considerably lessened. Potatoes kept in the dark until spring develop long, brittle sprouts that are useless, because they break off so easily, whereas "greened" tubers produce only very short sprouts, and these are tough and not liable to break away.

The experiments also show that the best results are obtained by "greening" in the autumn immediately after lifting. An additional advantage of autumn "greening" is that, to a certain extent, it "checks the ravages of winter rot which

often spreads in a wholesale manner after potatoes are stored, the fungus readily gaining admission through the soft skin of ungreened potatoes."

PROPAGATING SHRUBS.—The past, present, or succeeding month is the best time to propagate flowering shrubs from cuttings. Young shoots approaching ripeness (as they ripen they get firmer) should be selected, and the cuttings planted firmly in pots filled with light, sandy loam. The pots should then be placed in a frame until they form roots. The object, of course, of putting them in a frame is to check loss of water from the foliage. When they form roots they can replenish themselves with water.



HOUSE-FLIES IN RELATION TO HEALTH.

House-flies lay their eggs in or on organic matter, usually choosing organic material that has begun to decay. Filth and kitchen rubbish offer a very ready breeding medium. This illustration is a reproduction of a photograph showing the larvae and pupae of the house-fly on old rags taken from an ashpit (natural size).

[Reproduced by kind permission from the Report on the Habits, &c., of the House-fly, prepared for the City of Liverpool Health Committee by Robert Newstead, A.L.S., F.E.S., &c.]

cold condenses to a clear fluid that boils at 21°C . below the freezing point of water. This liquid when mixed with water until it forms 40 per cent. of the volume gives us the commercial fluid known as "formalin." As a treatment for scab in potatoes nothing better is known than immersing the affected tubers for twenty minutes in a mixture made up in the proportion of half-pint of formalin to twenty-one gallons of water. Formalin can also be used for the suppression of house-flies. These little pests are really a menace to health, and our dwelling-houses ought to be kept as far as possible free of their presence. Filth of all kinds has a peculiar attraction for flies, hence they carry about very undesirable bacteria on their legs and other parts of their

The Month's Work.

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

AUTUMN PROPAGATION. August brings us to the best time to begin the propagation of tender bedding plants to keep over the winter for next year's display; and where pelargoniums are largely grown these must be taken in hand at once. Where vigorous, firm growth has been made a cutting or two off each plant will not be missed, and choose these from the outside of the bed. Avoid mutilation of the plants by taking away too much, and by starting early a good stock can be secured during the next few weeks without disfiguring the beds. Select firm, short jointed cuttings about nine inches long. Amateurs very often fail through making their cuttings too short. A good mixture for these cuttings consists of a third portion each of loam, leaf-mould, and sand. This should be put through a half inch sieve to take the roughest part out, which may go at the bottom of the pots or boxes the cuttings are to strike in. Concerning this latter point, where many cuttings must be struck in autumn, and plenty of room is available, boxes 2½ feet by 1½ feet, and four inches deep, are excellent for striking in. To the amateur whose accommodation is possibly limited six-inch pots is preferable, as there is more chance of success in striking the cuttings of most things round the pots, and wintering these standing closely together on a greenhouse shelf or even in a frame or spare room, when the frost can be excluded. As soon as the cuttings are put in the boxes or pots should be placed at the bottom of a south wall or the side of a walk not much frequented, or any position where they can get the full blaze of the sun. Avoid a cool, shaded place. Water to begin with, and afterwards keep the cuttings in a medium state of moisture. When danger from frost or heavy rains is feared they should then be taken under cover. The great object for successful wintering is to get hardy growth and the plants rooted before they require to be placed indoors.

CARNATIONS.—In order to get well rooted plants before winter begin at once to layer carnations and plectees. They can be propagated by cuttings, but the surest way is to adopt the ordinary plan of layering them. To the uninitiated in the process I would advise them to get a practical lesson from one who knows. It would be so much easier to learn than following written instructions. At same time, in case some have a hazy idea of the work, and prefer to go ahead "on their own," I offer a few brief hints on the operation of layering. First, prepare some soil consisting of fine, light loam, old potting soil, leaf-mould, and sand, and pass all through a half inch sieve. Take the carnation shoots or grass as it is often termed, and strip the leaves from a portion of the stem next the ground. With a sharp knife split up the cleaned portion of the stem, beginning a little below one of the joints. Keep the cut open, and fix it firmly in the prepared soil laid round the parent plant with a wire peg. Place more soil round the layers as each plant is finished to keep all steady and firm, and give

a good watering through a rose. Birds often prove troublesome in scraping away the fresh soil, and if this is so a net may be placed over the beds, or stones laid about on the soil helps to keep it in its place. Frequent waterings are necessary in dry weather. The layers will be well rooted by October, when they can be either lifted or planted in beds for flowering next year, or left alone till next March. Where the soil of the garden is light and dry autumn planting is best, but if heavy and wet spring planting is more satisfactory.

IVY-LEAF PELARGONIUMS.—These elegant plants are very suitable for the roofs of greenhouses and conservatories. Being comparatively free from the attacks of insects few things are easier kept clean, and all during the summer and autumn months they flower very freely. I noticed lately a nice selection on the roof of a greenhouse at Abbotstown, Castleknock, where they certainly were the most notable feature in the house. A particularly bright cerise variety was His Majesty the King, with large trusses produced in great profusion. Then few things are better than the well-known Souvenir de Chas. Turner, magenta scarlet, and very floriferous. Col. Baden Powell is a lovely rose-pink, and a charming improvement on it is Princess Victoria, a somewhat pale lilac. Mrs. Hawley and The Queen should also be grown, both being extra good in colour and form. Cuttings should be struck any time this month in the open air. When rooted pot up, and keep in a cool house all winter. Re-pot in spring, and place in a house near the glass in a temperature of 55 deg. Syringe frequently till flowering commences, and give plenty of moisture at the roots. A 12-inch pot will keep large plants growing for years, but careful attention must be paid to watering and feeding with weak liquid manure; water once or twice weekly during the active period of growth in summer.

THE HERBACEOUS BORDER.—This border during August should be at its best. The labour and thought of previous months will now be producing a return, let us hope, encouraging to its owner. Many things will require constant attention in the way of staking, as high winds soon snap over young shoots and flower heads. Notes might also be taken for future reference of the suitability of certain subjects for more extensive planting, and possibly a more effective colour scheme prepared for next year. These things can best be settled on the spot, and when the heights and habits of each kind can be easier studied.

SPRING BEDDING.—All plants that will go to furnish the beds next October should now be having careful attention. Wall-flower seedlings must be transplanted before they become crowded and drawn. Primroses, *Alyssum saxatile*, *Arboretia*, and similar spring flowering plants will not thrive if crowded and choked up with weeds. The young growths of violas root freely now, put into light soil behind a south wall, and without any covering of glass. Short, healthy cuttings from the lowest parts of the old plants just pulled off are the best. Make them firm in the ground and give a watering immediately they are put in. A like propagation suits *Arabis abida flora plena*, that flowers so effectively in the spring months. In fact, if struck too soon it does not make such nice handy stuff for October planting.

ROMAN HYACINTHS.—The seedsman's bulb lists are

now arriving by post, which reminds us that to have Roman hyacinths in flower by November the bulbs must be potted now. These bulbs are capital for forcing, and their flowers are very sweet and useful. They should be potted up without delay, as the bulbs do not keep so long firm as the ordinary Dutch hyacinth. Three to five bulbs in a five or six-inch pot is a useful size. Pot in loam, leaf mould, some well-rotted manure, and a very little sand. Plant the bulbs firmly, allowing the crown just to appear on the surface. Place the pots closely together in a shady place, and cover over six inches deep with sifted ashes, sand, or bog mould. When the pots are filled with roots, remove to a frame, and gradually inure to the light and a gentle heat if wanted early.

GENERAL REMARKS.—Bedding things in general are not growing with the freedom that many will expect. We have had cold nights, and the ground is still very dry. The hoe kept going through the surface of the soil will help to keep growth on the move. In the violet beds, where red spider has made its appearance owing to the drought, these should be syringed with some insecticide. A good one is quassia extract used at the rate of two wineglassfuls to three gallons of soft, soapy water. Wet all the foliage with this at least twice a week till they are clean and growing freely, and keep all runners picked off. Earwigs get troublesome in showery weather, and do much damage to dabbias, chrysanthemums, and such like. Pieces of bean stalks placed among the plants act as traps, and inverted small flower pots, with a little moss in each and placed on stakes among the foliage, is a good old-fashioned plan of catching these pests.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

WALL-TREES.—Leading shoots and those required for filling vacant spaces must not be neglected now, or damage will be done to them; have them secured to the wall by means of nails and shreds, as already advised. During high winds they often snap off if not secured in some way. Attend to the watering of wall-trees, and especially to those trees carrying crops of fruit; these will benefit greatly by an occasional dose of liquid manure applied after a soaking of clear water, or some good farm-yard manure as a mulch may be applied as far as the roots extend; it will help to swell up the fruit and benefit the trees. During showery weather, such as at present prevails, some are deceived as to the condition of the roots, and imagine that they get all the moisture they require. If these people would only, during such weather remove a few inches of surface soil and examine them they would find that it has not penetrated very far; instead, they would find the soil dry and lumpy about them. All such trees should receive a good soaking.

GOOSEBERRIES.—As soon as the fruit is cleared the bushes ought to get a spraying of sulphide of potassium (liver of sulphur) two ounces of sulphide to three gallons of water. Failing this, they should be sprayed with Bordeaux mixture. American mildew has become

so prevalent that those who are in the happy position of being free from it should adopt preventive measures, such as advised. So far the bushes in these gardens are free from it, although it has done considerable damage to bushes in several gardens not more than a quarter of a mile away. It is very doubtful whether the cultivation of the gooseberry for market can, in the future, be carried on with profit to the grower owing to this dreadful scourge. He has to run the risk of his whole crop becoming attacked, and thereby losing it, as he can be compelled to burn both bushes and fruit. The extra cost involved by spraying to ward off infection has to be considered, and the present price of the fruit, 6s. per cwt., is not likely to tempt many to invest in its cultivation.

RASPBERRIES.—The old canes must be cut down close to the ground as soon as fruit is all gathered, and if more than sufficient young ones have been left when being thinned out previously they must be reduced to the number required, so that these may receive all the light and air possible, also the ground cleared of weeds and lightly forked over.

STRAWBERRIES.—If not already done, the old plants, if required for another season, should get a clean over. Have all the decaying and torn leaves removed, also the runners, and finish by lightly forking between the plants as advised last month. Prepare ground for new plantations, and as soon as the young plants are fit to plant get them into their permanent quarters. Do not delay this work, as every week lost now will tell against them in the crop next year. In planting, give strong growing varieties plenty of room between the rows—two feet is a good average width—and plant in the rows one foot apart, every alternate plant to be removed after first crop is gathered. Weaker growing varieties or those of a dwarfer habit of growth may be planted at eighteen inches apart every way. As so on as got in give a thorough soaking of clear water, and mulch with stable manure of a very strawy nature. This will help to shade the plants and keep the soil moist about them in dry weather, the principal aim being to get the plants into good growths with well-developed crowns before winter sets in.

WASPS.—These are most destructive to all kinds of fruit during August and September. Traps should be laid for them at once; these to consist of wide necked bottles half filled with beer or sweetened water, and hung amongst the fruit on the trees. Hunt for their nests, and have them destroyed. Cyanide of potassium is the best known means of destruction, used either dry or in solution. If dry drop a small piece into the entrance to nest, and dig it up next day when it may safely be done; or dissolve $\frac{1}{2}$ lb. of the cyanide in a pint of boiling water; bottle and keep in a safe place, securely locked away, when not in use. It is a most dangerous poison, and should be legibly labelled such. To destroy the nests saturate a piece of soft rag or tow with the liquid poison, and with a stick push it into the nest. This is quicker in its action than the first named method, and nests may be dug out with safety to the workman in an hour after being done.

FRUIT ROOM.—Have the fruit room made sweet and clean in readiness for reception of fruit; walls should be whitewashed with lime, the shelves washed down,

and the floor made clean. Everything about fruit in store should be sweet. Anything with a disagreeable odour taints the fruit, therefore should not be allowed near where stored.

GENERAL REMARKS.—The strawberry crop now coming to a close has been, on the whole, fairly good, though not up to the average of the past few years, the constant rains experienced for past month seriously interfering with its quality; heavy rains, too, being responsible for the dirty appearance of quantities of them. People who do not lay down straw to preserve them must lose considerably by having soil washed on to the fruit. Raspberries are doing well, and will be a fair crop. Gooseberries, where free from mildew, are doing well and are carrying enormous crops. Black currants, too, are a fine crop. Apples are now swelling up fast, the recent rains benefiting them considerably. Most varieties are a very heavy crop, though some varieties are a poor crop in this district.

It may interest your readers to know the present price offered here for fruit:—Strawberries, 2d. to 3d. per lb.; black currants, 2s. to 2s. 7s. per cwt.; gooseberries, 4s. to 6s. per cwt.; raspberries, 3d. per lb.

The Kitchen Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

THE kitchen garden this month will be full of interest. We have arrived at a time when the results of the season's work can be estimated. Successes and failures ought now to be noted and the causes set down in writing, with the varieties of seeds and sources of these stocks as having been suitable or otherwise. August is also a month when we must look forward to yet another coming season, for our spring supply of vegetables depends on present forethought and preparations.

There is little seed-saving in most gardens now, as the time and space are generally more economically spent otherwise, but particularly fine strains of any variety are sometimes worth perpetuating by saving the seeds, since some people can badly afford to purchase choice varieties every year. This matter requires judgment and some knowledge. It ought to be remembered that the function of bearing and ripening seeds is the most distressing period on the growth of plants and the greatest drain on the land for plant-food. On this account, any such crops as lettuce, turnips, cauliflower, &c., not intended for seed ought to be removed from the ground before advancing into the flowering stage, and the flowers of onions, beet, &c., be broken out short when they start. Started carrots may be removed forthwith. Allowing crops to encumber the ground after their use is over, as well as the loss of plant-food, the waste of space, and the untidiness, also increases the danger of perpetuating diseases and insect pests.

Spent peas ought to be removed, as otherwise they may spread mildew. Early potatoes should be lifted before developing blight, and the medium-sized tubers of the best producing stalks stored for the present in sprouting boxes in a cool shed for seed. In this matter of selection for "seed," potatoes often fare badly, as the

seed generally used is gathered haphazard when the crop is all lifted. When seed is saved from onions or Brussels sprouts, or broccoli, or from any other species of vegetable, care is invariably taken to select only the very best of its kind; not so with potatoes, the stalks that yield the best produce are seldom separated from the mass, and yet it is reasonable to think that "like follows like" more in the case of tubers than in that of seeds which are the product of two sexes. We hear much about the degeneration of varieties of the potato; we hardly hear enough about the carelessness committed in the selection of the noble tuber for seed.

GENERAL WORK.—It goes without saying that all crops requiring to be watered or fed with liquid manure must have this attention or be the worse for the omission. During the first week of the month the last of the late celery should be got out in trenches, and also, if not completed, finish putting out spring broccoli without delay. Plant leeks for early spring use. Late celery and leeks come at a time when other vegetables are often scarce, and these should be given a fair breadth where space permits. Cut vegetable marrows while in a young state; these are then best for cooking, and the plants continue to bear more freely. For the like reasons, ridge and other cucumbers should not be allowed to remain too long before cutting. Plant out endive one foot apart every way, and where a succession must be maintained make a last sowing. Cut herbs for drying, and dry slowly in a cool shed. Make another sowing of prickly spinach in a sunny aspect, and again in the middle of the month. Sowings of turnips made about the middle of the month will stand in the ground and give good flavoured roots for winter and spring use. Sow varieties recommended in last month's calendar. Continue to plant out winter greens and dwarf savoy and cauliflower for small heads at the end of the season. Thick-necked onions require to be turned down to hasten ripeness. Lose not a day in harvesting onions when the growth is complete—which is known by the leaves turning yellow. If rain makes it necessary, dry the crop, raise on nets or mats in an open shed, and bank before putting in store. For onions to keep the crop must be harvested with care and judgment. Cultivate between crops of savoy, Brussels sprouts, &c., as it is required, by fork or hoe, and make sure that no weeds are allowed to seed.

LETTUCE.—Make sowings of lettuce about the beginning, middle, and towards the end of the month. Some of the first sowing may come into use at the close of the year according to the weather. The other sowings stand over winter for spring use. These sowings should be made in a sunny aspect in friable rich soil. Sow thinly in lines about one foot apart, as crowded plants winter badly; some of these will be transplanted as they become fit during September; the remainder occupy the seed-bed till spring. Good varieties for autumn sowings are Hammersmith Hardy Green; All the Year Round for cabbage lettuce; Brown Cos is also suitable.

CAULIFLOWERS.—Make sowings of cauliflowers from the middle to the end of the month. These sowings should be made in well prepared soil and in a sunny aspect. If necessary water the soil before sowing, and shade with mats or evergreens until the seed germinates, but remove shading immediately the plants are

over ground. In some seasons and situations cauliflower plants stand over winter without protection, but this is uncertain. Sometimes the protection of cold frames is necessary, but in a sunny spot a few evergreen branches usually suffice. If a cold frame is to be used the plants ought to be transplanted as soon as fit to handle, about four or five inches apart, either into the frame with prepared soil or to a warm position where the frame can be placed over them when the weather threatens, or lights placed on the frame, as the case may be. Autumn sown cauliflowers are important, being useful to give a supply in early summer when vegetables are scarce. They are also uncertain, sometimes forming heads prematurely, which is called "buttoning." Sowing too early and too much sheltering are some of the causes of this disappointment. Early London is a trustworthy kind for this season if it be of a good selection.

TRIPOLI AND OTHER ONIONS.—Two sowings of these should be made during the month. As regards any prescribed dates for autumn-sown onions or for any species of vegetable, the nature of the soil and the earliness or lateness of the locality must be considered. Light, warm soils and mild localities are best suited by sowings from the middle and towards the end of the month. Sowings may be first put in a week earlier in cold, clay lands in cold districts, where there will be less risk of the plants becoming too forward and bolting to seed prematurely. Sow thinly in lines one foot apart, or broadcast in beds such varieties as Giant Rocca, Red Italian Tripoli, White Lisbon, Bedfordshire Champion, and Ailsa Craig in an open situation in well filled and manured land, and to ensure hardy growth to stand frost make the soil firm at sowing time. This is an important crop, and ought to have every attention.

CABBAGE.—Continue to sow cabbages for spring cutting, and also Red Dutch, from the beginning to the middle of the month. Transplant to nursery beds the earlier sowings so soon as they bear handling. Transplanting at this season is important, as plants, to stand the winter well, must be grown sturdy. (See last month's issue for Varieties, &c.)

The Herbaceous Border.

By FRANK HUDSON.

THERE will be very little to be done in the border during this month, with the exception of keeping down weeds, cutting off decaying and decayed foliage and flower stalks, staking tall flower stalks, &c.

If the weather continues dry, all strong growing plants will be greatly benefited by a few thorough waterings. Water is important in the growth of plants in the herbaceous border, and any treatment of soil that tends to increase its water-holding power will produce manifold results in the growing season. Hence the effects of trenching as preliminary to planting and heavy mulching with farmyard manure in spring. If cuttings were put in last month, as advised, they should be taking root by this time. Give air gradually, and give them all the light possible. Carnation layers will also require watering. All biennial plants should be transplanted at the very latest this month.

Bees.

By T. MAGUIRE, The Orchard, Enniskillen.

THE out look for honey in 1900 is exceedingly blue. It is most aggravating to the bee keeper who has been nursing his stocks carefully all the season to find that now, when the harvest should be coming in, when he has his extraction in readiness, his cases ready for the despatch of sections, his bottles ready for filling, that his fine stocks are idle, eating up the honey they have gathered, and the precious clover blooms dying off day after day without having yielded him as much as would pay for the foundation. Truly the clerk of the weather will have a lot to answer for this season. What between damaged hay, blighted potatoes, and hungry bees, his catalogue of offences will be a full one.

Stocks which were apparently booming quite recently will very soon be short of stores unless the weather changes for the better. It is bad policy to allow bees to starve no matter how bad the return may be, and by keeping them in good heart a few weeks of warm weather later on may enable them to repay the trouble and outlay in feeding.

August is a good month for re-queening. Any old or second rate queens should be supplanted. If good queens are not to be obtained locally, they should be got from some reliable breeder. Most breeders advise by post the despatch of queens the day before sending, this enables the recipient to have his stock in readiness for introduction. On receipt of the advice card, go to the stock and destroy the queen. The new queen can be introduced the following evening by the direct method, or by simply removing the plate over the candy hole in the queen-box, and placing it over a hole in the quilt over the frame, or over the sections; the bees will eat their way into the box and the queen will find herself at home in a very short time.

Robbing must now be guarded against. Provide a strip of perforated zinc for each hive, 18 inches by 1½ inches, cut a small hole in the centre enough to let a few bees pass in and out, and place it along the doorway, secure with a few tacks. Prevention is much better than cure in the case of bee robbing, and in weather like what we have been getting very little inducement suffices to start it.



AN ALLEGED NEW GRAFT HYBRID.—According to an account in "Nature," Professor Winkler has succeeded in raising certain new hybrid *Solanums* by a process of vegetative crossing in this wise. A scion of a night-shade was grafted on the cut-end of a tomato stem. When the callus formed at the graft junction, a transverse cut was made through the junction so as to induce the formation of adventitious shoots from the newly-formed callus tissue, the idea being, that as the callus is formed by the combined activity of the cambiums of the stock and scion, the adventitious buds are likely to inherit the combined peculiarities of the two species. As a matter of fact this appears to have taken place, as cuttings of the shoots resulting from the buds produced distinct plants named *Solanum tubigenense* by the raiser.

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CONTENTS

	PAGE		PAGE
Native Plants for Our Gardens (Illustrated)	129	Roses	139
The Tulip (Illustrated)	131	Propagation of Roses by Cuttings	140
Sweet Violets	135	Notes	140
In Praise of Gardening	136	The Month's Work in the—	
School Gardening	137	Flower Garden	141
Spiræa Arizæfolia (Illustrated)	137	Fruit Grounds	142
Current Topics	138	Vegetable Garden	143
		Bees	144
		Correspondence	144

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3	<i>Out of Print.</i>	53	The Construction of a Cowhouse
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock (or Preshaugh) Spraying	56	Cultivation of the Root Crop.
7	Fluke in Sheep.	57	Fruit Packing.
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10	Wireworms.	60	The Packing of Butter.
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13	Contagious Abortion in Cattle.	63	"Redwater" or "Blood Murrain" in Cattle.
14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act Regulations, 1907.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
17	The Use and Purchase of Manures.	67	Forestry: Trees for Poles and Timber.
18	Swine Fever.	68	Forestry: Trees for Shelter and Ornament.
19	Early Potato Growing.	69	The Prevention of Tuberculosis in Cattle.
20	Calf Rearing.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
21	Diseases of Poultry—Gapes.	71	Forestry: The Management of Plantations.
22	Basic Slag.	72	Forestry: Felling and Selling Timber.
23	Dishorning Calves.	73	The Planting and Management of Hedges.
24	Care and Treatment of Premium Bulls.	74	Some Common Parasites of the Sheep.
25	Fowl Cholera.	75	Barley Sowing.
26	Winter Fattening of Cattle.	76	American Gooseberry Mildew.
27	Breeding and Feeding of Pigs.	77	Scour and Wasting in Young Cattle.
28	Blackleg, Black Quarter, or Blue Quarter.	78	Home Buttermaking.
29	Flax Seed.	79	The Cultivation of Small Fruits
30	Poultry Parasites—Fleas, Mites, and Lice.	80	Catch Crops.
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37	" " Meadow Hay.	87	Barley Threshing.
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42	Permanent Pasture Grasses.	92	Home Preservation of Eggs.
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44	"Husk" or "Hoose" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
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47	The Black Currant Mite		
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Native Plants for Our Gardens.

By R. LLOYD PRAEGER, B.A.

THE Editor has invited me to write some notes on the value of our native plants for garden purposes, and I do so the more willingly because there can be little doubt that many of the species that grow wild in Ireland are well worthy of cultivation, being quite as beautiful and interesting as others, introduced from foreign lands, which are frequently grown.

It should be pointed out, in the first place, that many of our favourite garden flowers are in reality native species—some still in their pristine condition, others altered by selection or by crossing almost beyond recognition. For instance, the columbine (*Aquilegia vulgaris*), the Welsh poppy (*Meconopsis cambrica*), and the dropwort (*Spiraea Filipendula*), all common garden flowers, are native Irish plants. So among our shrubs, arbutus, holly, and hawthorn; and among trees, oak, ash, birch, alder, and others, are truly wild in Ireland. In the kitchen garden, too, we find the asparagus and sea-kale, which are rare natives, inhabiting our seashores; while in the fruit garden the raspberry, apple, and other important species have their native representatives.

It may be pointed out that the converse process has also been going on, and plants introduced into gardens have escaped, and have so thoroughly settled down amid the native flora that the most expert botanists are sometimes puzzled to distinguish the truly indigenous from the alien flora. As examples of such aliens may be mentioned the traveller's joy (*Clematis Vitalba*), the soapwort (*Saponaria officinalis*), the Alexanders (*Smyrniolum Olusatrum*), the monkey-flower (*Mimulus Langsdorffii*), the water-thyme (*Elydaea canadensis*)—the last two having their real home in North America.

To come now to indigenous plants which are

well worthy of cultivation in our gardens we may begin with the larger species whose proper place is the border. Two of the crane's-bills *Geranium pratense* and *G. sylvaticum*, which as natives are confined to Co. Antrim, are well worthy of a place, especially the first, of which there are double and white varieties in cultivation. A smaller species, the bloody crane's-bill (*G. sanguineum*), which may be seen in profusion on the sea-slopes at Howth, is beautiful in the garden; there is a delightful white variety of it, and the dwarf prostrate pink-flowered form (*lancastriense*), which grows only on the sea-sands of Walney Island in Lancashire, is one of the most charming of rock-plants. The shrubby cinquefoil (*Potentilla fruticosa*) is an interesting dwarf shrub, pretty both in leaf and flower; as a native it occurs in a few limestone areas in the west. Its var. *Friedrichseni* has lemon-yellow, instead of golden-yellow, flowers. Then I must confess a leaning towards the Irish spurge (*Euphorbia hiberna*), so interesting to the botanist as being one of those Spanish-French species which reappear in Ireland, far northward of their main habitat. This plant is execrated by all persons interested in salmon and trout fishing, as it is singularly poisonous to fish, and is often used on that account by poachers. In the garden it produces in spring pleasing rounded masses of bright yellow-green leaves and flowers.

For dry or sandy ground several plants commend themselves—the horned poppy (*Glaucium flavum*), with its beautiful grey foliage and handsome yellow blossoms; the rare sea cudweed (*Diotsis maritima*), one of the most woolly of all plants, and the sea holly (*Eryngium maritimum*), another handsome grey-leaved plant. The sea wormwood



Photo by

THE IRISH SPURGE, IN WOODS AT KENMARE, CO. KERRY.

[R. Welch

(*Artemisia maritima*), too, though seldom seen in gardens, is to my mind a better plant than any of the alpine silver-leaved species which are freely advertised. It grows wild abundantly on various parts of our coast. The samphire, too, will be found an interesting feature in a dry corner, while the lovely sea gromwell (*Mertensia maritima*) is quite exquisite in the garden; but, unfortunately, slugs find it so, too.

About Dublin, or elsewhere on the limestone area, the calcifuge or lime-avoiding plants must be grown in a special soil. If we have a peat-bed sloping down into the water-garden we have conditions suitable for the growth of many of the most beautiful and interesting of our Irish plants. Two of the Pyrenean heaths, whose presence renders Connemara famous among botanists, are already well known in gardens—namely, *Erica mediterranea* and *Daboecia polifolia*. Of the latter there is a white form in cultivation, and also the curious *bicolor* variety in which the flowers on the same plant are purple, pinkish, or white. The third of the rare heaths of Connemara, *Erica Mackayi*, is equally easy to grow, but is not so conspicuous a plant as either of the foregoing. *E. Crawfordii*, which is now being offered by nurserymen, is a curious double form of this, found in Connemara

by Mr. F. C. Crawford of Edinburgh in 1891. In the bog-garden we may, with a little care, successfully grow the beautiful great butterwort (*Pinguicula grandiflora*), an Alpine and Pyrenean plant, which is also found abundantly on the hills of Cork and Kerry.

The interesting droseras or sundews must have full exposure combined with constant wet, and the grass of Parnassus (*Parnassia palustris*) is well deserving of a place here, and gives no trouble. Several of our native orchids, also, look really well in the bog-garden—for instance, *Orchis maculata*, *O. incarnata*, *Epipactis palustris*, *Listera ovata*, *Habenaria chlorantha*. Here, also, we may plant another most interesting native, the little blue-eyed grass (*Sisyrinchium angustifolium*), one of those American species found in Ireland which provide so difficult a problem to the student of geographical botany.

If we are blessed—or cursed—with a water-garden, few plants will give greater pleasure than the water violet (*Hottonia palustris*), which is found in Co. Down. Its pink blossoms, rising tier above tier out of the water, are most graceful. The frog-bit (*Hydrocharis morsus-ranae*), also, is a delightful little aquatic; the bladderworts (*Utricularia*), with their innumer-

able, tiny animal-traps, will be found interesting; while in the deeper water we may plant the yellow and white water-lilies, with a fringe of the flowering rush (*Butomus umbellatus*) and the narrow-leaved cat's-tail (*Typha angustifolia*), which is a more graceful plant than the better-known *T. latifolia*.

Lastly, we come to plants suitable for the rock-garden, and of these there are quite a number in our Irish flora that are well worth growing. Some of these are well known and, indeed, famous species, such as the mountain avens (*Dryas octopetala*) and the spring gentian, which grow in sheets over large areas in Clare and Galway. Almost all our alpine plants are worthy of cultivation such, for instance, as the various saxifrages, the rose-root (*Sedum Rhodiola*), the alpine lady's-mantle (*Alchemilla alpina*), the cushion pink (*Silene acaulis*), and the rare *Arenaria ciliata*, which grows on the Ben Bulbin range. Here, also, we may include several dwarf sea-coast species which are very bright in the rock-garden, such as the sea campion (*Silene maritima*), the rock sea-spurrey (*Lepigonum rupicola*), and the sea-lavender (*Statice occidentalis*).

The Tulip.

By W. C. McATEER, White Plains, New York.

THE tulip is one of the most popular flowers for spring bedding purposes, and with good reason. It is hardy and easy to cultivate, and offers unequalled opportunities for tasteful and effective display by the variety and brilliance of its colours, which range from the purest white to the deepest black, from dark crimson and fiery scarlet to pure yellow and green. Its numerous varieties keep flowering in succession from the beginning of March to the end of May, and when planted in masses the effect produced is unsurpassed by any other bedding plant. Persons trying to find fault with the family may truthfully say that the earlier varieties are not suitable for cutting on account of their short stems, but this objection to the family is easily overruled in the later flowering varieties, which are second to none for bouquets and table decoration. The tulip was prized as a flower before the Christian era. Dioscorides, a Grecian, and probably a contemporary of Theophrastus, who lived three hundred years B.C., called the tulip "Satyrium." Later writers called it *Tulipa*, which is derived from the Greek word *Tulipan*, meaning Turk's cap. Some authorities say the name is derived from the Persian word *Toliban*—i.e., Turban—which the inverted flower resembles. Be that as it may, *Tulipa* still remains the botanical name of the family. Parkinson, an English botanist, wrote in his work entitled "Paradisus Terrestris," dated 1656, the following quaint description of the tulip—"Next



Photo by]

THE GREAT BUTTERWORT IN THE WRITER'S GARDEN, ONE MONTH AFTER ARRIVAL FROM CO. CORK.

[R. Welch

unto the lilies and before the narcissi or daffodils, the discourse of tulipas deserveth his place, for that it partaketh of both their natures; agreeing with the lilies in leaves, flowers and seed, and somewhat with the daffodils in roots." His reasoning is, perhaps, a little far fetched, but is interesting to show the interest taken in the flower at that early date. The tulip was first introduced to Europe in the year 1554 by Busbequius, the Austrian Ambassador before the Sultan of Turkey. He purchased seeds of the plant from a gardener who resided near Constantinople. The history of its cultivation in Holland dates back to the close of the sixteenth century. About that time a certain Dr. Clusius, a noted German herbalist, settled in Leyden. He soon roused the curiosity and admiration of his neighbours by the wonderful flowers he grew, especially his tulips, which they had never seen before. Some of them wished to purchase bulbs from him, but he asked such high prices that they were unable to buy, so one night they stole them all, the loss of which is said to have made him broken-hearted for the rest of his life. As some bulbs were imported from the East in the same year he was never able to get any redress for the theft. The tulip craze began in the year 1634 and lasted four years, the Government having to interfere to stop it.

The Dutch neglected everything else in their mania for tulip culture. Prices went up by leaps and bounds until the climax was reached when a *Semper Augustus* bulb was sold for £380 (\$1,824.00), along with a carriage and pair and two sets of harness.

Previous to that time there were only two bulbs of this variety in existence. A Dutch ship-owner had purchased one of them for £300 (\$1,440.00), which he laid on his desk before planting. Shortly afterwards one of his sailors brought him good news, so he presented him with a smoked herring. The sailor, on the look out for an onion to eat with it, saw, as he thought, one on his master's desk, and, watching his chance, pocketed the bulb. A hue-and-cry was soon raised, and the sailor was found eating it, exclaiming that it tasted no more like an onion than a weasel tasted

like a whale. The other one was sold soon after for the price already mentioned. The tulip was introduced into England in the year 1577 by the aforesaid Dr. Clusius, and in due time arrived in America, being brought over by some of the early emigrants. Until the latter part of the nineteenth century the Dutch supplied the world with dry bulbs, but of recent years other countries have taken up their culture with great success—notably, France, Germany, and the British Isles. The Irish growers are well to the front, and are second to none to-day in the production of good, sound, healthy bulbs. Parkinson, already referred to, divided the genus into two principal sections, with a lesser intermediate section, as

follows:—*Praecoces*, early flowering; *Serotinae*, late flowering; and *Mediae* or *Dubiae*, middle flowering. Most growers to-day divide them into two sections, early and late. Under the early heading comes the *Early Singles* and the *Early Doubles*, and under the late heading comes the *Late Doubles*, *Perrots*, *Old-fashioned Darwins*, and *Cottage tulips*. There are eighty-three undoubted species, of which about one half are in cultivation. They are natives of oriental countries—principally Siberia, Asia Minor, China, and Japan, and are naturalised in the south-western countries of Europe. The origin of the common garden tulip



DARWIN TULIP, REV. H. EWANK.

(Much Reduced.)

is unknown. They are descendants chiefly of *Tulipa gesneriana* and *Tulipa suarvolens*; *Suarvolens* being the parent of the early flowering varieties, and *Gesneriana* of the late. These varieties are not considered species by the best authorities, only wild hybrids. The following list comprises some of the best known species in cultivation—namely, *Celsiana*, *Clusiana*, *Eichleri*, *Greigi*, *Kolkowskyana*, *Oculus solis*, *Persica*, *Pracox*, *Praestans*, *Sylvestris*, and *Turcica*. *Celsiana*, crocus-like tulip, so called from its resemblance to a yellow crocus when expanded, is found wild in Southern Europe and Northern Africa. Height, 4 to 6 inches. Flower yellow inside, orange outside. *Clusiana*, Clusius tulip, is naturalised in South France and Southern Europe. Colour white, striped rose; 14 inches high. *Eichleri* has for its home Georgia in Asia. Flower brilliant scarlet, violet-

blue base, margined yellow. Growth about 6 inches. *Greigi* hails from Turkestan; height 6 inches; colour orange-scarlet, dark base margined yellow. *Kulpakowskyana* is a native of Turkestan and Central Asia; 12 inches high; petals bright yellow inside, outside bright red. *Oculus solis*, sun's eye tulip, has for its home Southern Europe; flower bright crimson, purplish-black base; height 12 to 14 inches. *Persica*, a beautiful dwarf yellow species, about 6 inches high; it is found growing wild in Persia, the country from which it derives its name. *Praecox*, large sun's eye, resembles *Oculus solis*. Flowers larger, and have a yellowish tinge on the outside. It is a native of South France.

Praestans, a lovely species from Bokhara; colour orange-scarlet; producing sometimes from three to four flowers on each stem. *Sylvestris*, wood tulip, is found wild in most parts of Europe and Britain. It grows from 12 to 16 inches high; yellow in colour, and sweet-scented. *Turcica*, parrot tulip, easily known by its irregular wavy petals, which range in colour from deep crimson to clear yellow, occasionally flushed orange and green. The species derives its popular name from its colours and tints, closely resembling those of the South American parrots. It is a native of Thrace and Turkey.

In relation to soil, the tulip likes a light, rich, sandy

loam, but will do well in any kind of heavier soil, provided it is well drained, and a handful of sand put around the bulb when planting to make it feel at home and prevent its rotting from an excess of moisture. October is the best month to plant the bulbs. The proper depth to plant them depends on their size, usually from 3 to 6 inches, and the same distance apart. As regards food, they like a plentiful supply of well-decayed farmyard manure, which should be dug into the ground before planting or used as a top-dressing afterwards, but should never be allowed to touch the bulbs as it tends to rot them. Tulips are well adapted for pot culture. The pots should be well drained, and the soil used given a mixture of rich

loam, leaf-mould and clean sand. Three bulbs can be grown nicely in a five-inch pot, the top of the bulbs just appearing above the surface of the soil when potted. If intended for forcing they should be plunged about six weeks in cocoanut fibre, refuse or coal-ashes, in order that they may get well-rooted, which is essential to success, after which they should be brought into the house and kept as near the glass as possible, giving plenty of air and watering freely until they come in flower. Tulips can also be grown in water, like hyacinths. A typical bulb of the genus might be described as consisting of a small uneven base, on

which are arranged alternate rings of dull, white matter of the embryo inflorescence and foliage, the whole covered with a tunic of a dark-brown colour. Underneath this tunic in some species there is a thick woolly substance covering the bulb, presumably for protecting them from the rigorous winters of their native homes. The rings of dull, white matter are full of microscopic cells which are filled with plant food in the form of starch and mineral matter. This reserve food is called upon during the flowering period, and without its help the tulip's efforts to flower successfully would be a failure. After planting, the grower should keep the soil clean and cultivated, and keep a strict look out for



DARWIN TULIP, PROFESSOR FRANCIS DARWIN.

(Much Reduced.)

slugs and rats. The slugs eat the young shoots, and the rats steal the bulbs. Slacked lime for the slugs and poison for the rats are good remedies in both cases. The tulip likes plenty of air and sun, but the flowers will last much longer if planted in a position where they are partially shaded at mid-day. The blooms should be cut in early morning when closed, as they then can be handled freely without fear of breaking their petals; also if intended to send to a distance they pack into much smaller space closed than when open. A typical flower consists of six perianth segments arranged alternately and springing from the stalk underneath the ovary. The ovary or seed-pod occupies the centre of the flower, and is situated directly on top of the flower



COTTAGE TULIP, SUMMER BEAUTY.

(Much Reduced.)

stalk. It is the female organ of the flower, and its upper part is called the stigma. Around the ovary six stamens are placed which grow from beneath it, and give off when ripe a substance called pollen. They are the male organs of the flower. Hybridists raise new varieties by cross-fertilizing the flowers. They select blooms of two different varieties, which possess such characteristics as they would like to combine in one flower, and proceed as follows:—Just as the flowers open, the anthers are removed from one variety to prevent its fertilizing itself, and the bloom is covered over with a piece of fine muslin to keep out all the pollen carried to it by the wind and insects, which might spoil the intended cross. When the stigma is ripe to be pollinated which can be told by its moist appearance, the muslin is discarded, and the pollen is taken from the anthers of the other variety and placed upon it, using a slightly moistened camel's hair brush for the operation. The flower is let run to seed. The seed is sown as soon as ripe in light, rich, sandy soil. When the young shoots appear a strict eye should be kept on the slugs, or the grower will soon have no seedlings. If possible the seed should be sown in pots, and wintered in frames or a cool greenhouse until such times as they are large enough to take care of themselves. Up to a few years ago tulip raisers depended mainly on sports amongst the offsets for the production of new varieties, sometime with great success, as can be seen in the

beautiful strain of Darwin tulips raised by a Flemish amateur from sports of the old-fashioned tulip section. He named them after Darwin, the great apostle of evolution. Of recent years hybridists have taken up the work, and, as a result, the production of new varieties is no longer a matter of chance and selection, but in a measure are made to order in regards shape of bloom, size, colour, time of flowering, &c., the hand of man directing nature.

When cutting tulips each flower should be cut close to the second leaf so as to have as much stem on the flower as possible, and at the same time remove the least amount of foliage. In very short-stemmed varieties they may be cut close to the third leaf, but under no consideration should all the leaves be cut away from the bulbs, as during the following period all the plant food stored in the bulb is exhausted to produce the bloom. The leaves, under the influence of sunlight, refill the bulb cells, but if cut away cannot fulfil their natural functions, and the result is the bulb becomes greatly weakened, and very often dies. Many amateurs say—"I don't know how it is, but I cannot make any success of growing bulbous plants," yet the minute the flower is cut or commences to wither they ruthlessly shear away the foliage, for appearance sake, and give the bulb no chance to recuperate. It's no wonder their best efforts are a failure. When the leaves begin to turn yellow the bulbs can be lifted and the increase or off-sets taken off, care being

taken to keep them shaded from the sun, as it quickly cracks the skin or tunic, which would then easily peel off, and render them unsaleable by spoiling their appearance. They should be stored away in a well-lighted, cool, airy place until the planting season arrives. Experimenters have found that tulip bulbs, when exposed to a temperature of 35° Cent., only lose 1 per cent. of water in 24 hours, so it is not necessary to cover them with sand, &c., to prevent evaporation.

[NOTE.—*The Artiste*—The writer, Mr. McAteer, was formerly an employee of Messrs. Hogg & Robertson, the noted firm of bulb-growers at Rush. He was an occasional contributor to IRISH GARDENING before he left Ireland for "the States."—*The Illustrations*—The four illustrations used are the copyright of Messrs. Hogg & Robertson. They are reproduced here by their kind permission.]



CUT FLOWERS IN VASES.—Before placing the stems of cut flowers in vases care should be taken to remove all the lower leaves, as if these are kept immersed in water they die and give off an unpleasant odour. Then a little salt placed in the water will check decay, and help to keep the flowers fresh for a longer period of time. It is also a good plan to cut off each day the ends of the stalks, so that a fresh surface is presented to the water. The life of a vase of cut flowers can often be materially lengthened if they are removed from the vase at night, packed closely together wrapped in a damp cloth, and kept in a cool, dark place until morning.

Sweet Violets.

EVERYONE loves violets. To the poet they are "spring's earliest, loveliest gems"; to the gardener "most welcome flowers, blooming at a time when most other subjects are past"; to the city dweller they are first favourites as "button-holes" during the dulllest months of the year, and to all they are just the sweetest little flower that grows—a flower that everyone would cultivate if they could, and which, by the way, can be cultivated quite easily if only a little attention is given to details.

To have sweet violets in flower from October to March it is necessary to use a frame. A shallow frame is best, as the plants should not be kept too far away from the glass.

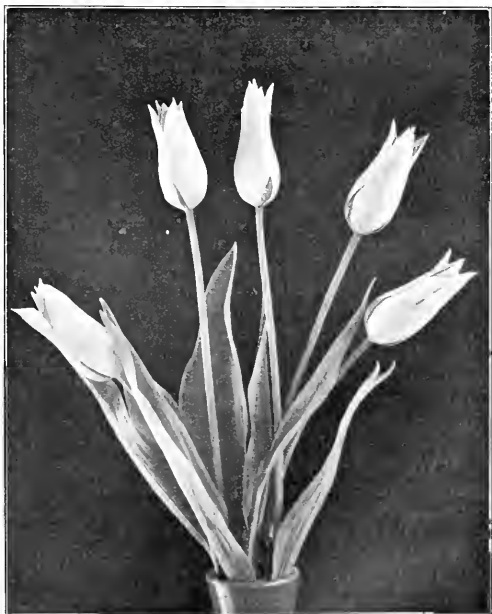
The best soil to use is ordinary loam, to which sand and leaf-mould has been added. The frame should be given a good position, its slope, if possible, facing south; as although the violet is somewhat of a shade-lover, it is the winter culture we are describing, and during these dark months there will not be too much sunlight to distress them, even in a southerly aspect. After transplanting to the frame (plant firmly, placing them about eight inches or a foot apart, and water in) shade for a day or two to check transpiration, and so avoid wilting. Keep the frames uncovered in mild weather, and during colder days put on the lights, but give as much ventilation as is possible without risk of checking growth. During frosty weather the lights must be kept firmly down, and in very severe weather the frames should be covered with mats, boards, or other protection. No water must be given unless the soil becomes dry, as there will be little transpiration during the cold weather inside the closed frame. There is one possible trouble—mildew—if the air is kept stagnant for lengthened periods. Therefore take advantage of all spells of sunshine or comparative warmth to ventilate the frames. In many parts of Ireland the winters, however, are so mild that there is practically no trouble with respect to ventilation.

The work of raising fresh plants for next season's crop begins in April after the flowering period is over. The sweet violet gives off runners, and these may be encouraged to root freely by placing sand on the surface underneath the plants. When sufficiently rooted they may be detached, removed from the soil, and planted out in their summer quarters to become established. The old plants may also be separated, and the divisions planted out as well if more plants are wanted than the runners supply. The site chosen should have a northern aspect, as violets cannot bear too much direct summer sunshine. The soil must be deeply dug and well-rotted manure well worked in. Plant 15 or 18 inches apart for doubles, but allow

a two-foot space between for singles, as they are more robust growers.

During the summer care must be taken not to let them suffer for want of water or to exhaust themselves by forming runners. These latter should be persistently removed as soon as they appear. This will encourage the production of flower buds. Mulching with well-rotted manure during June will benefit the plants. The continual use of the hoe will do much to aerate the soil and conserve water, and so contribute to the healthy growth of the plants. Dryness of soil is a frequent cause of failure. If red spider appears syringe, and occasionally dress with a mixture of lime and soot if syringing seems to fail. The violet is very sensitive to impure air; hence the non-success attending attempts at culture in most towns. It is a true lover of the country, delighting in moist soil under partial shade.

VARIETIES.—The following are a few of the varieties grown. *Singles*.—Princess of Wales, with large, rich violet-blue flowers on extra long stalks, habit strong, scent powerful; California, flowers large, violet-purple, scent delicious, useful for forcing; La France, flowers large, deep blue, very fragrant; White Czar, flowers a pure white. *Doubles*.—Marie Louise, flowers bluish-lavender and white, sweetly scented; De Parne, flowers lavender-blue, good for winter-flowering; King of Violets, flowers large, a good out-of-doors variety; Neopolitan is good but difficult to grow.



COTTAGE TULIP, MRS. MOON.

(Much Reduced.)

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In Praise of Gardening.

Lord Rosebery gave last month a delightful speech at the opening ceremony of the Cramond parish flower show on the subject of gardening and gardeners. It was freely reported by the public press. We reproduce part of the speech as given in the *Scotsman*.

THEN when we come to the hour of manhood, and before us lie the vast plains of life with their various paths leading to good and to evil—then we have the choice before us whether we will be gardeners or not. I do not mean practical gardeners, but gardeners in taste, in sentiment, in appreciation, and it is from that moment I trace my deterioration, for I did not choose to be a gardener in taste, and I am sometimes afraid it is almost too late to adopt that special form of enjoyment. Yet, sir, to this audience I am quite free to confess that I was wrong. I feel it every day more and more, because gardening is one of the enjoyments which one appreciates more and more with advancing years. When other amusements leave us, from want of strength and aptitude, gardening remains to us an increasing enjoyment and pleasure. That is the first reason. The second is this—There is no literature more delightful than the literature of gardening. I do not mean the nurserymen's catalogues, which are perhaps the most arid form which printed matter can assume, but I do mean the literature of gardening, from Bacon's famous essay downwards, literature that gives you a wish to be a gardener, and to taste the simple pleasures of the hour. There are books, like “Walton's Angler,” which delight the people who do not care about the sport they treat of, books that give you a taste in the mouth for the art they deal with, and give you a pure and high satisfaction in reading them. Well, the literature of gardening is another reason which makes me regret I did not choose to be a gardener in taste. The third is this—I cannot help believing, and believing very firmly,

in the moral training and atmosphere of gardening. I judge that partly from the cottagers' gardens, which represent so much thought and study and work given in moments of leisure to produce what, I think, is almost invariably a singularly brilliant and impressive result. I cannot believe that a cottager, when he gives his few moments of leisure to produce something beautiful, not merely for his own enjoyment, but for the pleasure of every passer-by—I cannot believe that such a cottager is anything but a good, a worthy, and an honest man. But I feel sure that I am right in thinking highly of the moral aspects of gardening as an occupation. I cannot help thinking, without disparagement to other splendid classes of our rural dwellers, that gardeners, on the whole, physically and mentally, are the cream of our rural population. I do not mean by that any disparagement to foresters or gamekeepers or ploughmen, for all are splendid classes in their way. But I do think that a gardener, by the nature of his occupation, is, or should be, physically and intellectually and morally, the best of our rural population. He leads, from a physical point of view, a life which keeps him always in the open air. He is perpetually face to face with the elevating mystery of Nature. He has the closest intercourse with our mother earth, without the incessant labour of the plough. His task is to explore and to watch all her secrets. It is his duty to deal in turn with all the miracles of Nature—the bud, the flower, and the fruit. He is the first to see the opening leaf and the first green spike that pierces the mould, and then when the weather fails, and when all is too inclement for other pursuits, he is able to devote himself to the preparation for another year, in the sure and certain faith that the miracles of Nature, which he has witnessed in the current year, will recur in orderly but miraculous rotation in the coming spring. No one can fail to see, who appreciates the daily task and toil of the gardener, that there is none that can or should raise the nature and the mind of man so completely as his; and, therefore, believing, as I do, that under these circumstances they are, and they must be, the best of our rural population, if I were a ruler, which, thank Heaven, I am not, I would do all I could to multiply and increase such men, for I should feel that by so doing I was best serving the interests of the rural parts of our country.

School Gardening.

IT is very pleasing to note that some progress is being made in the matter of school gardening in this country, although we are still a long way behind England and most of the other European countries in this particular branch of rural education. There can be no doubt whatsoever as to the educational use and economic advantage of introducing such a practical and immediately useful subject of instruction into the curriculum of our National schools. The aim, of course, is not to turn out gardeners, but rather, as in the words of Lord Rosebery, to so influence the children that they will grow up gardeners in taste, in sentiment, and in appreciation. If this is done the rest is sure to follow. One of the difficulties at present is to get school teachers with a sufficient knowledge of gardening to carry out a proper scheme of instruction. Everything really depends upon the teacher. If the teacher is enthusiastic and capable success is assured; if he is otherwise, no

real good can result from his work. Recognising this, the Department of Agriculture and Technical Instruction has just given a four weeks' course of practical instruction in School Gardening for a selected number of National school teachers from the counties of Carlow and Kildare. The class was held last month at the Kingstown Technical School, with Mr. L. J. Humphrey (the Department's expert in school gardening) as the teacher. Lectures, followed by experimental work in the laboratory, occupied the mornings, while the afternoons were spent in practical work in the School gardens.

Spiraea Arifolia.

By C. F. BALL, Royal Botanic Gardens, Glasnevin.

THIS spiraea can be thoroughly recommended to any one requiring a really hardy, free-flowering, graceful shrub to produce white flowers in July.

There is no difficulty in its culture, for it grows well in most soils. This spiraea is worth growing well, so do not plant in a shrubby thicket where it will be cramped for room, but rather give it an isolated position where its real beauty will be seen, then one will acknowledge that the name of "Spray Bush" was not bestowed unworthily. The panicles of small white flowers measure from six to eighteen inches according to its culture. To obtain the larger size the old wood which has flowered should be cut out in winter, or, preferably, immediately after flowering, leaving the young wood to bear the flowers for the following year.

Like many other plants it rejoices in more than one name. *S. discolor* is what it should now be

called, though usually sent out by nurserymen as *S. arifolia*. It is a native of North-West America.



"THE perfume of tree and flower, of grass and mellow earth, is Nature's incense; she swings her thurible ceaselessly at the head of the long procession of months. The scent of the first primrose! How truly it tells of spring, of greenness in the land, of the life and freshness that is to come. What can be more suggestive of the summer days than the cloying sweetness of the stocks, flooding the garden pathways with their heavy fragrance. Autumn may have clothed the countryside with gold and russet, yet it is left to the damp and pungent odour of fallen leaves to remind us sadly of the dying year."

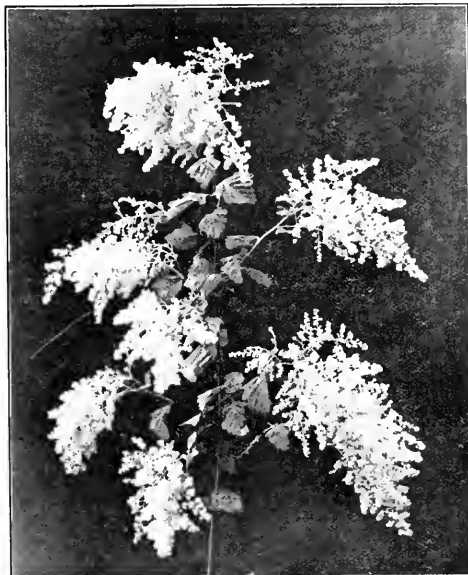


Photo by J

[C. F. Ball.

SPIRÆA ARIFOLIA

(From a Specimen in the Botanic Gardens, Glasnevin.)

Current Topics.

By E. KNOWLDIN, F.R.H.S.

PLOUGH! brothers, plough!—in your strawberries. Burn! brothers, burn!—your gooseberry bushes, and hide your heads, ye apostles of fruit farming, for are ye not a vain and foolish generation? "Jam! the strawberries," says many a grower, barring the J, for which we substitute their big D's, but, as a literal fact, some fruit farmers escaped by signing contracts sufficiently early with the jam-maker to save "sich langwidige," and some who did not have received pretty much the same sort of pity as that bestowed by the good little girl when viewing the celebrated painting after somebody—the lions after the Christians: "One poor lion hasn't got a Christian," but there was more than one poor fruit farmer without a jam jobber.

However, one of the biggest growers found another way to dispose of his 250 tons of strawberries, which did not pay for the picking let alone anything else. This was Wood of Crockenhill, Swanley, Kent, and let his name be preserved, if his berries were not, for generations of juveniles to rise up and bless it. He sent for the boys of Barnardo's Homes, for the little boys from the Farningham Home, and the little "erfin" girls from some other home, gave each a pack to carry back *outside*, after their *innings* on his broad acres, and the intake of the human boy, to the best of our recollection, far exceeds his rotundity, and—good Mr. Wood! And, poor Mr. Wood! whose 1009 profits must have been pretty well on a par with his namesake of Dorking, in the adjoining county, who arose one morning to find a widowed gander weeping for his harem, whose disappearance was accounted for by the lines (historic in the locality) pencilled on paper enclosing a sixpence tied to the old sultan's neck, informing Mr. Wood his geese were good, further stating—"We come from neither here nor yonder, and have brought six geese at a penny apiece, and left the money with the gander."

But, seriously, apart from King apple, is this gospel of the extension of fruit culture a true one? Gluts, of course, are spasmodic, but is there not another factor to come into the calculation—viz., the yearly increase of foreign fruit? Bananas three a penny at Nelson's Pillar, pine apples for a song in Cottonopolis, water-melons everywhere for less, and other things for next to nothing. We were told when modestly discussing the question that such foreign fruits do not affect it, especially the first named, on account of which one old lady has made herself immortal by preferring the old-fashioned night gear; we were told that pyj— we mean bananas—do not compete with *our* produce, but were not convinced, and perhaps our controversialist felt a bit shaky as he ambled off on to the farm proper, and spoke of the fine prices for prime hay; and here, truly, our farming friends show their astuteness by not glutting the market with it to run prices down, for we see excellent hay in the fields undergoing the process of conversion into second grade, third grade, and even fourth grade food, where a good deal of it will stand out until it is no grade at all. Unselfish souls! Surely the reward shall be great (for a few) hereafter—when

the hunters get their breakfast. But a truce to this rambling away to the farm where, by the same token, everyone—every little farm—should have its little apple orchard, and there would be nothing new or novel about that, for it is an old English custom, and our friends need not fear being "Englified" by its adoption.

It is not, perhaps, so much what we have to fear at the immediate present, as it is in the near future, from foreign competition. All seem on the watch for something to tickle our palates and ease our pockets with some pretty flavoured thing we never knew we wanted till it came. Now, naartjes from Natal have established their superiority over the juicy Javas, and one never knows what some pregnant steamer is going to deliver herself of at our market doors. And the consignors are aided and abetted in their invasive policy by *all their* carrying companies that be, although we cannot say that our own transit rulers are guilty of such weakness, and if they were they are putting on the muzzle. As an instance of this we cannot fail to note that the G. S. & W. Ry. have limited *their* rail vouchers for reduced fares to exhibitors of fruit and flowers at the Dublin shows to one for each exhibitor; therefore the nurseryman who requires an assistant or two to cope with a big exhibit has the optional pleasure of paying full fares for his understrappers or staying at home. Then, again, to help the foreigner, some scientific pomologist is always dangling some possibility before their eyes which they are not slow to grasp. Now it is *Actinidea chinensis* which has flowered in Europe for the first time this year, a handsome hardy climber which we are told would in all probability be hardy in Ireland. However, we need not bother about that; they can do that for us on the Riviera, where it has flowered but not fruited for simple reason of being as yet in single blessedness for want of the male sex, which, we believe, will shortly be trotted over from China. When happily married the *Actinidea* bears fruit, la-hins of it, resembling a small plum, but with (saving your presence!) the guts of a gooseberry, and that it is highly relished by the Chinese seems its chief recommendation as yet. After all, perhaps we need not add this to our worries yet, for John Chinaman's tastes are peculiar to us "barbarians," as yet not educated up to infant mice dipped in honey and swallowed holus bolus, or hen fruit not esteemed by the Celestial palate till it is dead ripe, when it would engage all hands to negotiate a sample—one to grip the olfactory organ, whilst the other conveyed it to the facial orifice.

Thirdly, or rather fifthly, with apologies, fruit—with more apologies, for although sweet pea prattle still pervades the aerial currents, with the passing of the shows, that topic is now elevated above the common garden writer, as pea-men worry over Mendel's theories—fruit of high quality must *ever* be the consideration, especially under its commercial aspect, and Boskoop black currant, which is in everybody's mouth verbally, must be mentioned as a reminder to planters. Nothing better ever came to us from the land of bulbs, butter, and bounteous breeks, and no bigger jump was ever made in currant culture since Hans Breitmans' memorable "barty," when a young vrow who weighed but two hundred pound gave that record jump which shook the windows round. Well, Boskoop is a

mighty one too, not "mity," as it seems too strong a grower for that despicable little beast, and then there is the Comet red currant, sky high above all the others, if you get the right thing, and—but no more currant topics. Yet, by the way, we recently had three questions fired at us like pistol shots—viz., why don't they plant Ballsbridge? Are they going to plant it? When are they going to plant it? In reply we returned a volley of don't knows. Ballsbridge, of course, is that place where once an exhibition smiled, now lying derelict, saving one protected corner bearing the legend of Beckett, builders. There is, we believe, no truth in the report that the grounds are waiting to be converted into an unlimited roller skating rink. Still they *are* waiting, and if one dared whisper even the word international within a mile of Dublin town we should say that it would not be half a bad place for the contemplated British International Horticultural Exhibition, projected for 1911. From enquiries recently made of a man who knows nothing about it, and from whom one is apt to get the most reliable information, we find the delay of its conversion into a beauty spot is due to the law. If so we endorse the famous opinion, "the law 's a bass."

We wonder if there is room to mention another possible Irish industry which we heard of on our road to gaol (Naas show), where very probably our good editor wishes by this time they had kept us—well, as salve to his sufferings, we post this prattle *en route* for the poor-house (Athlone). Said J. A., as we were going to gaol—"A gentleman told me they make the most beautiful writing paper in Germany out of ragweed." Fancy that! And here we are, with the new "weeds bill," on the verge of losing the grandest crops due to the foresightedness of generations of farmers who have gone where landlords cease from troubling, bless 'em. That bill must be blocked. That's all. But what of the weather? a never ending topic (fear not, Mon. Editeur, we'll stop), and older than Old Moore, who, by the way, exalted himself by one lucky hit at it, which, according to history, was thus:—"What shall I put down now, father?" said young Moore. "Oh, put down snow." "But its July, father." "Oh, well, if you've got it down leave it." And it was left; and the snow came in July, and Old Moore made history for himself. What it seems we have to grumble about is the shift in the seasons—summer deferred till autumn, autumn carried into winter, and winter, not lingering, but actually flopping down in the lap of spring. After a bit, of course, vegetation will accommodate itself to this sort of thing, and everybody will be happy, barring gardeners, and the fates forbid they should ever be deprived of their growl. In common gratitude our heartiest thanks must be included to the editor for formalin and flies in the last number, illustrated by that pretty picture of a dirty rag acting as an incubator for the filthy fellow's progeny (the fly's family we allude to). Well, it was the rag done it—caught the housekeeping eye (figuratively, of course), and there was no peace till we hied us to our chemist, and, "Have you formalin?" "We have." "Is it poison?" That man of chemicals must have thought us too inquisitive, as he answered the question by asking another—viz., is it for flies? But we found on reaching Flyville the bottle was labelled "for

external use only," and the prospect of handling every winged one as we applied a tint to his external anatomy was not alluring, so we again turned up the fly-leaf of IRISH GARDENING, with the result that next morning there was sufficient sweepings to furnish the alleged fruit of the boarding-house currant pudding. Again, thanks, more apologies—now for the "poor-house."

Roses.

By O'DONEL BROWNE, M.D.



FROM a damp, cold July to a glorious sunny, hot August is a great change, and to show how much roses have appreciated the change one has only to remember the glorious display we had during mid-August. My own garden, which has most of the well-known varieties in it, was not well furnished with flowers until the heat came, but then I was really bewildered at the quantity and quality of my favourites. It seemed to me that every variety was doing its best to catch my eye when I gazed at some other variety, and so it was. Glorious Cochets were there; Mrs. G. Mawleys were splendid, but on the wall were two stars of the first magnitude, Mme. Wagram and Mme. Jules Gravereaux. How these two simply revel in

heat—what in July were hideous buds, gummed up with cold, damp, rainy weather, are even now beautiful flowers. Then there were those varieties such as Bessie Brown and Mildred Grant, perfect terrors to open save in hot, dry weather; and I must not forget that new giant, William Shean, opening every day as if they were mad for the heat. True, the heat disturbed that most glorious and refined rose, the Lyon-Rose, by somewhat rushing the blooms forward, but the colour was splendid. If ever a rose was praised surely Pernet-Ducher's new variety got its share, but no words can, or even will, do full justice to this most phenomenal flower. Readers, order early, as the run on this rose will next autumn be terrific, and be wise in time and order early to get good plants. At one show here I stood near Messrs. Dickson's (both Alex. and Hugh) and listened to every passer-by. They passed the usual remarks about most of the flowers, but when they came to the Lyon they were done, clean bowled out. There are some people who say that this rose is not hardy, will not grow, &c. Readers, there are people who will not believe anything! Lyon is a grand thing, and do not forget it. What a galaxy of colour we shall have in a few years'

time when the results of this rose, crossed with others, come to us from our Northern nurserymen, as come they will. Some may be better, but let us not forget that owing solely to Pernet-Ducher sending us the Lyon did we get these beauties when they do come. One little hint about this rose and I am done about it, *pro tem*. Try and plant it where some shade shall rest on it during the heat of a July sun—she will repay you. Has it ever struck you how some varieties which look to be on the thin side (by this I mean those varieties whose petals are somewhat flimsy and not stiff) can stand such heat? Take Dean Hole, for instance; it is marvellous how much heat this flower, amongst others, can bear, and why do most of the Teas last so well in such grilling heat? These are questions which I should like some botanist to answer. There must be a reason for this, and a botanist is the proper person to solve it. The more I grow roses the more I see what wonderful secrets nature has still which are unknown to us. It is the noticing of these new ideas (new to me at least) that makes rose-growing so fascinating. How I often wish for some great botanist as a friend to be near—what questions I would give him to unravel. The biggest question and the most interesting one to my mind is how do two roses—neither of them yellow—when crossed by a hybridist throw a yellow? Is it that running in some of these roses grandparents' blood there is yellow blood, if I may call it such, or is it that the combination of the two colours produces yellow, or is it the result of the weather at the time of the crossing? How I wish some of the readers of IRISH GARDENING would try and solve these questions. One of our greatest—nay, our very greatest—hybridizers tells me we shall never solve this question. *We must*, and that is all about it.

Propagation of Roses by Cuttings

As Tea-scented roses do best on their own roots, April is the right time to propagate them by cuttings. Fill some six-inch pots with a sandy compost, two parts loam, one part leaf-mould, one part silver sand. Press it firmly into the pots. Put half an inch of silver sand on top, then give a watering from a fine-rosed watering-can. Make the cuttings from four to six inches long, remove all the leaves except the top one; with a small stick make a hole the depth of the cutting. Insert the cutting up to the top bud; place the cuttings close to the edge of the pot, and make the earth firm round them. Give them a good soaking of water, then stand them in a frame on a bottom of coal ashes; sprinkle them over-head with water on afternoons of dry, hot days; keep the frame close till they are rooted, then gradually expose them to the open air, when they may be planted out or potted up, if required, in pots.

J. DEVINE, Kilworth.



SHRUBS FOR DRY BANKS AND POOR SOIL.—Mr. W. Dallimore, of Kew, recommends double, single and dwarf gorse, lavender, rosemary, savin, brambles, *Potentilla fruticosa*, *Cistus laurifolius*, *C. ladaniferous*, *C. recognitus*, *Berberis aquifolia*, and *B. stenophylla*.

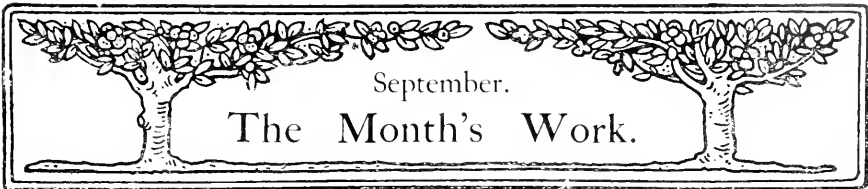
Notes.

THE VALUE OF FARMYARD MANURE is not entirely due to its fertilising properties; indeed, in a dry year its chief value lies in the fact that it gives an increased water-holding power to the soil. The luxuriant appearance of crops growing under such manurial treatment is mainly due to a more regular and plentiful water supply by which the plants are able to keep up a steady, vigorous growth, unretarded by distressing spells of drought. It has been found, for example, from very accurate determinations made at Rothamsted that the first nine inches of soil in a dug plot will, after heavy rains following a spell of dry weather, retain a great deal more water than the soil of an adjoining plot that was unmanured. In one case cited the extra amount of water was equal to about thirty tons of water per acre. The slow percolation of rain water through a soil rich in humus is obviously of very great advantage to growing crops; it secures a more constant supply of moisture, and hence a quicker growth and heavier yield.

ELDER BERRIES.—These berries are now ripening, and this suggests a note on the making of elderberry wine. The berries are gathered and crushed, and the juice strained into a clean vessel. To every three quarts of juice is added one quart of water, and in each gallon of liquid is dissolved three pounds of sugar. Then it is allowed to ferment in a cask or earthenware jar, and the level of the liquid kept the same by filling up with water as it evaporates. When fermentation ceases stop well and put aside for eight months before bottling off. Elder berries may be also used for tarts, but they should have spices or lemon added to give flavour.

LAVENDER BAG.—The delicious smell of sweet lavender from fresh linen is most luxurious to the senses. Every garden should have its clump, or even hedge, of lavender, and every housewife should prepare bags of lavender flowers for her linen chests and wardrobes. The flowers are gathered during a warm day and pounded. To each ½ lb. of flowers are added ½ oz. of dried thyme and mint, ¼ oz. of ground cloves and caraway seed, and 1 oz. of table salt. The mixture is then tied up in bags, and hung in the wardrobe or linen closet. Orris-root, it may be noted, is an excellent medium for holding delicate perfumes for perfumery bags.

PERFUME JAR.—Jars giving off the fragrance of our favourite sweet-scented flowers or herbs may be easily prepared by first making up a stock mixture, to which may be added the perfume-giving flowers of our particular fancy. Such a stock mixture may be compounded by mixing together ½ lb. common salt, ¼ oz. storax, half a dozen cloves, a handful of dry bay leaves, and another handful of lavender flowers. This basis will last for years, and to it may be added from time to time handfuls of fragrant rose petals or other sweet-scented flowers. Or to it may be added chips of sandalwood, cinnamon, orris-root, or musk, according to fancy.



September.

The Month's Work.

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

LIGHT AND AIR.—With a plentiful supply of sunlight, a high enough temperature, and a sufficiency of moisture, we go a long way towards success in plant cultivation, but the absence or insufficiency of any one of these will militate against it. Practically every plant must have air, and it is only when properly given that healthiness can be maintained. In plant-houses a circulation of air is often rigidly excluded, especially during the night. Except on cold, windy nights, and for stove houses where a high temperature is imperative, the ventilators left a little open during the night will tend to the good of the occupants. With the waning light it is now necessary to remove all shading material that has been on the glass during the summer. Where time can at all be spared it is also a good plan to wash the glass inside, and so get the full benefit of all the light possible during the shortening days.

CYCLAMENS.—Like many other garden plants, the cyclamen has been greatly improved within recent years. There is a difference of opinion as to when the seed should be sown. Some cultivators prefer to sow it in August or September, others again in January. The best plants I have seen were those from seed sown in the autumn, and grown on and flowered within fourteen months. If sown in autumn the young plants have a longer period of growth between the seedling and flowering stages, and if carefully attended to and kept near the glass during the dull winter months it is wonderful how quickly they push on after the turn of the year. Sow the seed in well-drained pans in a soil consisting of two parts of good loam and one part of leaf-mould, with some sand added. Place the pans in a gentle heat, covered with a piece of glass, and keep shaded. When the seedlings appear give more air, and when one leaf is made remove to a shelf near the glass. The temperature of the house may range from 55 deg. to 65 deg. during the day. When the plants have made three leaves they may be potted into three-inch pots, and in these they will grow on till the end of next January, when the next potting will be necessary. From the time the seed germinates the plants should never be allowed to become dry.

CHRYSANTHEMUMS.—If dull, wet weather is likely to continue the housing of chrysanthemums should begin

in good time, and this work spread over several weeks, taking in the most forward plants first. In arranging them see that they are not overcrowded, as if so mildew in the foliage and damping of the blooms are sure to follow. In fact, though many plants may be grown, it is better to only house those that are likely to give a good return, and discard all that are doubtful. Before the plants are taken indoors as a preventative against mildew—a formidable enemy of the Mum—mix up a quantity of soft soap and flowers of sulphur. Take a piece the size of a hen's egg and dissolve in three gallons of soft water, and syringe the plants all over with it. After such an application, with due attention to ventilation, and keeping the floor of the house dry, mildew will be kept in check.

SEED SOWING.—Apart from any pecuniary benefit it is always interesting to save seed of choice things. With a good, dry autumn many annuals of herbaceous plants produce an abundance of seed, and when carefully saved the reproduction is often better than the stock. In harvesting flower seeds, gather only during the middle of the day, when there is no dew or dampness about, and place in a dry room on sheets of paper, where they can be cleaned at will. Carefully label each lot and any notes—such as when sown, date when best in flower, and when seed was gathered. Such references help in future work.

LAWNS.—Where new lawns require to be made now is a good time to begin the work. In laying turf one has to contend with a good many weeds, but where sown the preparation of the soil and the selection of good seed from a reliable firm go far to ensure success. The ground should be trenched two feet deep, and thoroughly cleaned of all weeds. If poor a good coating of cow-dung should be worked in near the surface. If at all possible the ground should then be left all winter, when the frosts will pulverise the soil and make it in fine working order the following spring. April is a good month to sow the seed, and then at that time there is no risk of the young grasses being injured by frost. September is favoured by many, when the ground is cooler, but it must be well prepared and levelled and rolled. Choose a calm day to sow the seed, and rake it in out of the sight of birds, and a final rolling will complete the operation for the time. A pound of seed to fifty square yards is the usual quantity allowed.

ASTERS OR STARWORTS.—As a cut flower from early autumn till cut down by frost these very handsome and most useful species are unexcelled, the flowers lasting a

good week cut. Their sweet, pretty blooms and elegant sprays are most useful either for table decoration purposes or large vases in rooms. Asters of different shades, mixed with some light grasses, make a capital decoration, and for church purposes the star-like asters must not be forgotten. They are of easy culture in ordinary garden soil, and thrive also very well in shrubberies. They look lovely planted in good masses of blues and pinks and whites. This is the month to see them at their best, and where much exposed to wind place some loose stakes as supports, but avoid tying them up in bunches to a single stake.

AUTUMN PROPAGATION.—No time must now be lost in getting in the stock of cuttings that are required to keep over the winter. Pelargoniums—as advised in last month's issue—can still be put in. Lobelia, iresine, verbenas, and such like, being soft, should be put in pots or boxes, struck in a heated frame, and shaded from bright sunshine. It is also well to put up a few odd plants of each variety, and from these numerous cuttings can be obtained in spring. This saves room, and old plants are not so ready to damp off, and will stand being kept on the dry side during the dull winter days.

CALCEOLARIAS, VIOLAS AND PENSTEMONS do best in a cold frame, and the sooner the latter is put in hand the better. These will even stand a few degrees of frost in severe weather, but when this is so they must be kept shaded till a thaw again takes place. *Calceolaria amplexicaulis* is well worth growing for its colour and tall habit, but it will not stand frost, and where the protection of the frames is not sufficient it is best to strike the cuttings in boxes, and keep in a cool house all winter.

GENERAL WORK.—There will still be staking and tying to do in the herbaceous border to preserve a neat and tidy appearance. The hoe must be run over bare patches to keep small weeds in check. Preparation should be made to cover anything that may be endangered by the frost, which sometimes suddenly comes down in September. Autumn chrysanthemums prove very useful this month, and so do late dahlias. Light tiffany spread over the tops of the plants at night and removed in the morning will be a valuable protection from early frosts. Constant attention must be given to the spring bedding, and where effect has to be studied immediately after the autumn flowers are removed, of necessity the chief portion of the plants used must be evergreen shrubby plants. Some of the hardier-foliaged herbaceous plants may be pressed into service where winter effect is the point aimed at without reference to spring. When winter and spring seasons have to be studied, selections from both shrubby, bulbous and perennial plants can be effectively combined. Contrasting shrubs, such as coniferæ in a small state, hollies of various-coloured foliage, yuccas, and berried plants, should be introduced. The stock of bulbs that must be bought should be ordered at once, as those who order early generally get the best of the nurseryman's stock. Where narcissus and tulip bulbs have had to be lifted, now is a good time to plant the smaller bulbs in the reserve garden, keeping the largest for planting next month in the flower garden beds and borders.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

THIS is one of the busiest months of the year for the fruit grower, his time being fully occupied in gathering, packing, and marketing his produce.

The marketing of fruit demands the utmost care and foresight of the grower. He should have all his fruit packages and packing material at hand, also his market must have his consideration. It will not do to leave these things off until the time fruit is ready for despatch, as some fruit will not bear to be delayed. The quicker the journey is done between the tree and the consumer the better.

Dealing first of all with plums. They must not be allowed to get too ripe, else they will not travel well, as skin readily gets broken. They should be graded into at least two sizes, and packed in small, clean boxes holding about 16 lbs. Put a little wood wool in bottom of box, line with clean paper, and pack in layers; put a sheet of paper over top, a little wool, and the lid put on, nailed down, and at once forwarded to market or private customer as the case may be.

Apples, too, now demand attention, many of the early varieties being fit for market. Also many trees will benefit by thinning the fruit—taking the largest and allowing small ones to remain, they will swell up considerably, particularly if the tree be attended to by giving it plenty of water if at all dry. These will have to be graded—that is, divided into different sizes, and all of each size kept by themselves.

Desert varieties should be marketed in small boxes holding about 20 lbs. Cooking varieties in barrels of 9 stone, or boxes of 40 and 80 lbs., and particularly specimens in one dozen lots.

Owing to the fine crop of fruit this season the prices are not expected to rule high. Growers should endeavour to get the highest possible value for their produce, and to this end should go to some trouble and expense to place their goods on the market in as decent and presentable a form as possible.

The writer was greatly struck last year in going through a fruit market in Belfast with the disparity of the Irishman's method of sending fruit to market compared with our foreign competitors. The foreigner always packs in clean packages, and fruit is clean and uniform in size, whereas our home man seldom, if ever, packs in a clean package. Generally dirty barrels are used, and the hay employed to cover tops of barrels is generally of the worst description. Sometimes cabbage leaves may be seen covering top of barrel, and not very fresh-smelling either. Under these circumstances it is no wonder that high prices cannot always be had if this can ever be guaranteed. But something better might be done, and to this end a few rules should be laid down for the guidance of these men, or they should adopt some such rules as the following for their own guidance:—

1. Use clean packages and packing material.
2. Honestly fill packages by giving full weight, it

weight be stated; if otherwise, use no more packing material than is necessary.

3. Use fruit of uniform size in packing any one package.

4. Never mix varieties. If more than one variety be put in one package, a sheet of paper should be placed between the different varieties, and stated on label that such is the case.

Many varieties of pears ripen during the month. They should be collected as they ripen, which may easily be known by the simple means of lifting the fruit to a horizontal position. If ripe, they part readily from the tree. They should not be gathered until they do so. Providing these have to be sent to market they should be sold in one or two dozen lots in small boxes to hold these amounts, and packed in wood wool. Small-sized fruits are sold, as a rule, in larger lots, but the fine pears grown on walls, &c., pay to sell in small lots. A good price can generally be got for them.

Plum trees and, indeed, all kinds of fruit trees benefit by a thorough wash down with the engine when fruit is gathered, and if a fairly strong insecticide be used for this purpose many thousands of insects will be destroyed, greatly minimising the danger of an early attack the following season.

GENERAL.—Keep a sharp look out for wasps' nests, which appear to be fairly numerous. Have bottles examined occasionally and reset for them. Blackbirds, in many places, give a lot of trouble and do considerable damage. A gun is one of the best things I know of to keep these away. On walls fruit can be netted. The principal work this month is the marketing of fruit, &c., not much labour of soil being necessary, only to keep down weeds amongst fruit bushes. If work recommended to be done last month be not done it may still be carried out, but no time should be lost in doing so.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

IN the vegetable garden September might perhaps give the first period of comparative rest, but that when moisture follows the hot weather of summer the weeds renew their persistent growth. Gigantic slugs, yellow, or brown, or black, tempted abroad by the increasing coolness and moisture of the shortening eve, also roam about in the gloaming; and woe betide the cauliflower plant or young lettuce, or cabbage, either in seed beds or recently set out, that stands in their way. The smaller brethren are no less innocent. Hoeing must be continued during favourably dry weather to prevent weed growth and to cultivate the soil, and to baffle the slugs newly mixed soot and lime should be dusted freely about celery, lettuce, and other crops, and particularly round seed-beds and recently transplanted brassicas.

GENERAL WORK.—As a night's frost in the middle or at the end of the month may cut off half-hardy vegetables as kidney beans, vegetable marrows, tomatoes, &c., vigilance must be given so that such

things are not so easily destroyed, either by gathering the crops or by affording some light coverings at night. Thin turnips and winter spinach as they may need it. Late sown turnips often fail to form good roots by being left too long unthinned. If pits or frames are becoming vacant strong plants of lettuce or endive may be pricked out in these for a winter supply. Cool tomato houses can also be utilised with lettuce for the same purpose. Burn all potato, pea and bean haulm, also weeds, to destroy pests and seeds. Apply gas-lime to land infested with vermin, and leave it uncropped for winter. Cut out stems of globe artichokes that have been cut over. To have plenty of cabbage for spring cutting is indispensable, as it then is such a universally popular vegetable, delicate and wholesome to use. To have first-class quality liberal and careful cultivation is necessary. The ground ought to be thoroughly manured and dug, and in putting out plants let these down to the first pair of leaves, and make quite firm in the soil. Ground from which onions have been harvested well suits spring cabbage, and is generally utilised for the first planting, which may be done as soon as plants are forward enough to plant out. Forking over the ground is all that onion ground usually requires as preparation for this crop, having been heavily manured for the previous crop. Leeks must have earth drawn up to them as they advance to blanch the stems.

TOMATOES.—Tomato plants growing in the open air should be closely stopped to induce fruit already formed to finish off. Water must be given only if the plants require it, as unnecessary moisture increases the risk of diseases and cracking of the fruit. Remove portions of some leaves to expose the fruit to the sunshine, but this practice is much abused. Stripping the plant of most of its leaves, as is often done, is not advisable. No plant can fully develop its fruit without foliage, and the tomato is no exception.

ONIONS.—Autumn-sown onions sometimes fail to winter well from being allowed to become weedy, this having the effect of drawing up the plants and leaving them tender. Crowded beds or lines also require to be thinned. Sometimes the lines are thinned to about three inches between the plants, and in spring every second plant is transplanted. A greater distance is allowed if extra large bulbs are desired.

CELERY.—Continue earthing early celery when the soil is not in a wet condition. Defer the earthing of late celery until it is well advanced, as it only checks growth. Amateurs often check celery in this way. When the side suckers have been removed a light mulch of earth spread over the roots of the plants aids growth. Earthing by piecemeal interferes with the watering or causes earth to be carried into the heads, which often prevents the crop from keeping by causing it to rot. By tying each plant loosely with a string of matting or raffia an upright habit of the outside leaves is caused, and this will be found handy when earthing up later on. A better plan still is to bind any kind of paper about each plant, thus starting the blanching process. Avoid the use of too much strong liquid manure, as it is likely to cause coarseness. A little salt in the water helps to check vermin, and is an aid to growth and fine flavour.

Bees.

By T. MAGUIRE, The Orchard, Emmiskillen.

AUGUST must have been a revelation to the bees this year. They had practically nothing to gather from but blackberries, yet during those few weeks of glorious weather quite a respectable quantity of honey was gathered. Some of my stocks got as much as 60 lbs., and the average would probably be 60. It makes one's mouth water to think of what we should have got had the hot spell come a month earlier. The clover was in sheets everywhere, but, alas! without the necessary heat it might as well have not been there at all. However, the bloom of blackberries was something extraordinary also, and certainly the bees have made the most of them. The moral of this season is, *nil desperandum*—keep your stocks in good form, for you never know what may happen. Those lucky bee-keepers who have lime trees beside them must have got a fine pull off them also. Unfortunately lime trees are not extensively grown in this country, and it is only in a few favoured localities they are to be seen. This is a great pity, for lime honey is very fine, and the tree when in full flower yields enormously.

Few stocks will have any difficulties with regard to stores this season, nevertheless all should be gone over at once, and any which seem short of 30 lbs. should be fed up to that amount immediately. There is no doubt that autumn is the proper time to feed, and when done now the bees can be trusted to take care of themselves till May next.

When honey is being taken off the bees are generally in a robbing humour. Every stock should be protected with the perforated zinc strips referred to in last month's article.

A great many sections will be unfinished this season. These can be filled back into crates, and left on all winter. With warm packing overhead they make a capital winter passage over the frames, and the honey comes in useful for the bees; besides, this is an ideal way of storing them for next season, when they will be found very valuable for the first supers.

Prices for honey have been somewhat lower this season; why, it is hard to say, for the quantity will not be nearly equal to last year all round. In all probability prices will improve when the foolish people who rush in and sell their honey at whatever they can get have disposed of their stock. Sections should be stored in a warm place, and, if possible, packed in tin boxes so as to exclude insects, &c. If cleaned and wrapped in waxed paper the flavour and aroma will be preserved.

Driven bees can now be had from those who keep skeps. Two driven lots added together, and hived on six or eight sealed combs of honey, will make as good a stock next year as any that can be got. It is too late now to hive them on sheets of foundation—they would hardly get them drawn out. Driven bees winter capitally at the back of a main stock on four or five combs, and come in very handy for building up other colonies in spring and for supplying spare queens.

Correspondence.

SPRAYING FRUIT TREES.

SIR.—I think it would be very useful if your paper could get the opinions and experience of those who have used copper sulphate in various forms for the spraying of fruit trees to prevent "spot" or "scab," as there can be no second opinion but that the arsenate of lead is most useful in destroying caterpillars without damage to the foliage.

I will now give you my experience of the effect of the copper sulphate spray. In 1907 I sprayed those kind of apples liable to spot with a $1\frac{1}{4}$ per cent. mixture of copper sulphate and lime that is equal to $1\frac{1}{4}$ lbs. copper sulphate to 10 gallons water, with necessary lime. The result was that the spray did more damage to the fruit than the "spot" did.

In 1908 I sprayed with a weaker mixture, less than 1 per cent. copper sulphate, made up with soda, and carefully tested with litmus paper to make certain that the spray was neither too acid nor too alkaline. The result was, however, not satisfactory, much fruit being damaged by the spray, while the "spot" fungus was not killed. This year (1909) I have tried the Woburn paste, made up according to instructions sent with it. This spray has much less colour than the home-made mixture, and does not show much blue on the trees, but the effect on the fruit is much the same, while the "spot" remains active. It should be noted that the effect on the fruit is not apparent for some time, but goes on increasing for some weeks after spraying, when it often presents a rough or burnt appearance.

The effect is much more severe on some kinds of apples than on others, Ecklinville, Cox's Orange Pippin, and Alfriston being badly marked, while King of Pippins did not suffer much, and was the only apple that seemed to benefit from the spray. If others have a similar experience to this it is clear that we require a less injurious and more effectual spray for apple "spot."

Knocklinn, Bray.

E. D'OLIER.

ROSES AT SHOWS.

SIR.—Can we kindly ask if some of the rose experts will kindly answer through IRISH GARDENING what class of roses they consider should be shown in vases under the name of roses (garden), as it would be a great help both to exhibitors and judges? At the Royal Horticultural Society of Ireland grand summer show, July 20—Class 11, roses (garden), six bunches in six kinds shown in vases, not more than five sprays to each bunch, and only one variety in each vase—the judges placed first and second vases containing some H. P.s and H. T.s, scented, anything but good blooms of the varieties, but shown up in the centre with their other vases of Climbing roses.

Most of the exhibitors in this class show all Climbing roses, and beautiful bunches, the one placed third staged Aimée Vibert, Alister Stella Grey, Reve d'Or, Reine Olga de Wurtemberg, Grass an Teplitz, Dundee Rambler. It is evident most exhibitors in this class consider the proper roses to show are the Climbing roses. We would like to hear the opinion of others, as it would be helpful to exhibitors in the future.

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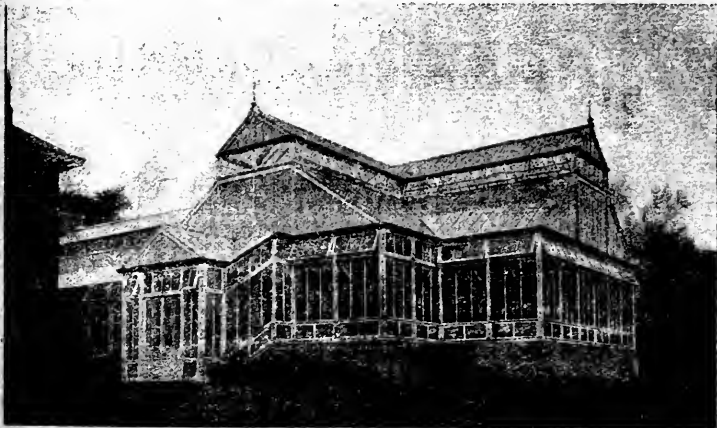


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Irish Gardening

CONTENTS

	PAGE		PAGE
Precautions in Tree Planting	145	Pinks and Carnations (Illustrated)	154
Zenobias (Illustrated)	147	Tourist's Pleasant Experience	155
Sea Kale	147	Notes	156
Current Topics	149	The Month's Work in the—	
Notes from Glasnevin (Illustrated)	150	Flower Garden	157
Roses	150	Fruit Grounds	158
Bulbs for Window Boxes	151	Vegetable Garden	159
Two Gardeners (Illustrated)	152	Bees	159
The Gloxinia	152	The Herbaceous Border	160
		Answers to Correspondents	160

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4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
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16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
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24	Care and Treatment of Premium Bulls.	74	Some Common Parasites of the Sheep.
25	Fowl Cholera.	75	Barley Sowing.
26	Winter Fattening of Cattle.	76	American Gooseberry Mildew.
27	Breeding and Feeding of Pigs.	77	Scour and Wasting in Young Cattle.
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44	"Husk" or "Hoos" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
46	Haymaking.		
47	The Black Currant Mite		
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OCTOBER
1891

Precautions in Tree Planting

By A. C. FORBES.

NOW that the planting season is approaching once more, those who contemplate planting forest trees during the coming winter should be carefully considering ways and means, for however few the trees may be which are to be dealt with, the arrangements for carrying out the work cannot be made too early. Whether planting be done in autumn, winter, or spring, success or failure depends very largely upon the various preliminaries being properly carried out, and it may be of advantage to discuss a few of those details which are often neglected and postponed until the last moment, and then rushed through too quickly to give even plants or methods much chance.

Possibly the first and most important point to attend to is the choice of species for the particular soil and situation, but this is too big a subject to be dealt with here. Next to the species, however, comes the selection of the trees, and probably the inexperienced come to grief more easily over this work than any other. A grower, for instance, wishes to plant a shelter belt or a gravelly ridge on his farm, and comes to the conclusion that pines are the most suitable trees to plant there. Being a cautious man, he decides to choose his plants in some local nursery rather than trust to correspondence on a subject he does not profess to know much about. He arrives at the nursery, is met by the proprietor, and shown round the stock the latter happens to possess. Having learned the position and purpose for which the trees are required, the purchaser is taken from one batch of trees to another, and invited to make his

choice, the nurseryman, on his side, throwing out such suggestions as he may consider appropriate to the occasion and the visitor. In the course of the perambulation a small bed of, let us say, Scots pine is encountered, and the customer is at once struck with their size and vigour. Strong plants, five to six feet in height, making a vigorous growth and apparently better able to hold their own and make a show than the younger and smaller ones seen previously, they catch the eye of the buyer at once. The nurseryman, possibly, does not recommend them, but his customer is evidently so attracted by their appearance, and so firmly convinced that they would make a plantation at once if planted on his land, that it would be little short of unnecessary cruelty to inform him that these particular plants were destined for the rubbish heap in the course of a few weeks. The upshot is, probably, that the trees are purchased at what appears to be a nominal price, and the grower considers that he has done a good stroke of business.

The trees are forwarded, perhaps, within a fortnight or so, and possibly in the month of November. Before they can be planted the ground has to be fenced off from live stock, and as the planter has read, or been told, that trees can be planted from October till April, he considers that the whole winter is before him. "and, sure, there's time enough." The trees, therefore, tied up in bundles, are deposited in the handiest spot that presents itself, and this usually happens to be a dry ditch: some grass, stones, sods, or bracken

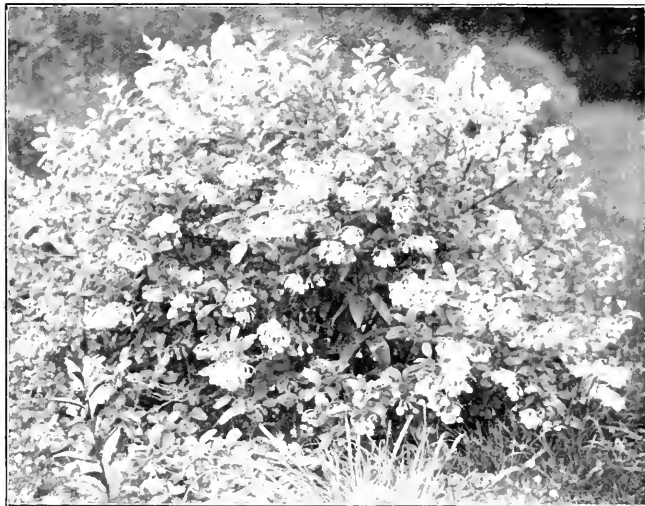


Photo by

[C. E. Bull.]

ZENOBIA SPECIOSA GROWING IN BOTANIC GARDENS, GLASNEVIN.

being thrown over the roots until the latter are out of sight.

As spring approaches, the long-intending planter decides to stick in the trees, and the chances are that the operation is performed before the ground is fenced. Over the method and period of planting we may draw a veil, but it does not require a very vivid imagination to conjure up a process which will leave the trees with the greater part of their roots out of sight and their tops leaning at various inclinations to the horizon, and it is sufficient to presume that Sir Walter Scott's command, issued through the medium of the Laird of Dumbiedykes, has been literally obeyed.

A dry, windy March or April are now all that is needed to convert that particular farmer into an anti-forestry expert. He will describe, in vivid language, how his trees, so judiciously selected, so carefully planted, and so thoroughly protected against cattle (after 50 per cent. or so had lost their tops), changed from green to grey and from grey to red; how he was misled by the man who induced him to plant and defrauded by the nurseryman who sold him the plants; and how, through the loss of them, he was robbed of

the use, for one entire summer, of the best bit of land he had on his farm. The above picture, in one or the other of its various phases, may be seen at most seasons of the year and in most parts of the country. The moral of it is—"don't plant unless you are prepared to carry out the whole work in a thorough and careful manner." Choose short, frequently transplanted trees, of a size not larger than is necessary to enable the trees to keep alive in the herbage

of the ground to be planted, and choose them first—*Le.*, before others have picked out the best. See that the trees are properly lifted, and not delayed on the road before they reach you. If you cannot plant them out at once, untie the bundles, and place them thinly in trenches in a sheltered corner of the garden or some spot where fine, moist soil can be got to cover the roots. Leave them there until the ground is fenced, holes dug, and everything ready for careful planting. Should the weather be dry or windy at the time of planting, puddle the roots in wet clay as soon as they are lifted out of the trench. See that the roots are put properly into the ground and firmly trodden in when there, and, finally, do not forget to go round and tread them up again after windy weather.

With all these and many other precautions failures will still occur, especially with certain species. But apart from exceptionally dry springs and from species which Nature never intended to be moved after the seedling period of planting, provided proper care and attention is paid to it, is not a particularly risky proceeding. Our advice to amateurs is, however, "Begin in a small way and gain experience as you go."

Zenobias.

THE genus *Zenobia* contains only one species, which was introduced from the South United States in 1800. Though introduced so long ago, the zenobia is seldom seen, yet its merits entitle it to a place in any good collection of hardy shrubs where lime does not prevent the family of *Ericaceae* from being grown.

The zenobia grows naturally in boggy, peaty spots, and in cultivation does well in any cool place in peaty soil. If peat cannot readily be procured, leaf-mould mixed with fibrous loam will be a good substitute. *Andromeda cassimifolia* is another name for *Zenobia speciosa*, and the waxy-white flowers in racemes, like the lily of the valley, are somewhat suggestive of an andromeda. Though the type plant is certainly good, *Z. speciosa pulverulenta* is far superior. This powdery zenobia is a stronger grower, making a spreading bush about 3 or 4 feet high; the leaves are covered by a bluish-white substance resembling the bloom of plums, and similarly rubs off when roughly handled. When thriving, it is one of the most beautiful of the smaller shrubs, for its hanging white bells are produced freely, and are sweetly scented. The anthers make a small brown centre to the flower, and are curious, being four-awned. In some localities the zenobias produce seeds freely, which may be raised in the same way as the rhododendron; where it will not seed, layers may be put down and rooted. C. F. BALL.

Sea Kale.

THE sea kale (*Crambe maritima*) is a native plant belonging to the cruciferous family. It frequents sands and stony places by the sea-shore. In its cultivated and blanched state it forms one of our most delicious of forced vegetables. The plant is smooth-skinned and of a glaucous-green colour. Its large leaves, grown in the light, manufactures much starch, which is stored abundantly in its thick perennial stock. It is from this reserve store of readily available food that the forced leaves growing in the dark obtain their daily supplies of nutriment. The roots of the plant are long and stout (often called "whips" or "thongs" by gardeners), and they, too, are stored with reserve food. A peculiarity of the sea kale is that the roots when cut or otherwise injured are able to produce buds—the "adventitious" buds of the botanist.



Photo by]

[Miss S. M. Wallace.

ZENOBIA SPECIOSA PULVERULENTA
(From a Specimen grown in a Donegal Garden.)

Relatively few plants have this power retained by their roots, but plums and hawthorns, dandelions and horse-radish are other familiar examples of the same tendency. This peculiarity of the root is taken advantage of in propagating sea kale. Pieces of the roots four to six inches long are cut off and planted in March. If plants are lifted for forcing in the autumn the roots may then be cut off and kept in dry sand or earth until the planting season. In preparing these root cuttings it is usual to make the top end level and the lower end sloping. The cut end will soon "callus"—that is, a thickish ring of vigorous cellular tissue will arise and tend to spread itself over the surface of the wound. When the cuttings are planted buds will freely start from the upper callus and roots emerge from the lower callus.

The preparation of the ground is an important matter. The sea kale requires a soil freely supplied with air and containing a fair amount of organic matter, therefore a light soil that has been well dug and autumn-manured with farmyard manure answers best. If the only soil available inclines to be heavy, then it must be well drained, deeply dug, and thoroughly manured sometime previous to planting. A bright, sunny position will favour vigorous growth and development of foliage, as one must remember that the value of the "crowns" to be afterwards used for forcing will almost entirely depend upon the amount of starch, &c., manufactured by the leaves and transferred to the crown structures, to be stored therein for the future use of the young shoots. As we have already said, the planting is done in March. The cuttings are usually arranged in rows at a distance of four feet apart. The sets may be inserted in groups of three (placed in the form of a triangle), leaving a space of five or six inches between the groups. Plant very firmly (a dibble may be used), sinking the cutting so as to leave its top about an inch or so below the level of the soil. A ring of sifted ashes placed round each group of cuttings will be helpful; the buds will soon push through. Each cutting will produce several buds, but it will be wise, in order to secure the best results, to pinch off all but one.

The after-treatment will mainly consist in securing a proper water supply. This will entail frequent hoeings between the rows, so as to keep the surface of the soil in a fine powdery condition, and thus prevent loss of water by evaporation from the soil surface. If this is properly done no trouble with weeds will arise, as they will have no chance at all of growing. If there is still any fear of loss by evaporation, mulching with farmyard manure or leaf-compost may be resorted to. In very dry seasons it may be even necessary to water the plants. The soil must on no account be allowed to get too dry. Whether any artificial manuring would be beneficial or not during the season will of course depend upon the richness of the soil, and this is a question that must be settled on the spot, by watching the progress of the crop. Any flower-stems that appear ought to be removed at once.

By October, growth will be over, and the first frosts will be followed by flagging and decay of the foliage. When the leaves are removed there is left a rooted crown, the size and weight of which is directly proportional to the activity of the foliage during the past growing season. If the plants have been sufficiently

supplied with room to grow—moisture, food and sunlight—the crowns will be large and well filled with reserve food; if anyone of these conditions was lacking its retarding influence will be manifested in the results. At this time, too, the crowns are provided with young or embryo leaves representing next year's foliage.

The object of forcing is to induce these young leaves to grow rapidly and to produce succulent stalks rather than large green blades. This can be done, because there is now food enough stored away in the crown to feed the leaves during the whole period of forcing. It is simply a matter of transporting the stored starch, &c., to the young shoots, to be there transformed into sappy leaf-stalk structures. To accelerate the growth of the stalk and to retard the development of the blade the plants must be grown in the dark, as light has, of course, the contrary effect. There is no trouble with watering, as under the conditions of forcing very little water is lost by the plant.

Starting with good crowns by end of October, forcing may be commenced during November. There are different ways of forcing sea kale so as to secure supplies at different times, but the chief determining factor in this relation is heat. With a temperature of about 50° to 55° Fah. good stalks ought to be secured in from four to six weeks. Perhaps the commonest plan is, first, to clear the ground of all leaves, &c., then each group of crowns is covered with a mound of ashes, and this in turn covered with a "sea kale pot." To apply the necessary heat the pot is surrounded by a heap of leaves or other organic rubbish packed firmly round so as to exclude light. During the decaying process that ensues in the heap, heat will be given off, but the temperature should on no account be allowed ever to exceed 60° Fah. By covering only a few plants at a time the season of supply may be considerably prolonged. When the stalks are nearly ready for use admit light to the tips—the object is to give them that purplish tint that is so much appreciated. Although specially made pots for blanching are very handy, yet old boxes, barrels, &c., may be used in small gardens. When cutting the stalks, if they are not to be used immediately, a small portion of the solid crown should be removed with them. These, if placed in a vessel with a little water, will keep fresh and crisp for some time. After the crop is lifted the pots and fermenting material should be removed off the ground, the crowns re-covered with ashes, and the manure spread at once over the surface and forked into the soil.

Another way of forcing and blanching is to simply cover the rows of crowns with a ridge of soil a foot deep, so that when the tips of the shoots just break through the soil, the latter is cleared away, the crop removed, and the soil treated as described above; of course in this case the crop will be later, as no artificial heat is supplied.

A still other way may be adopted to give limited and regular supplies for private use. Plants may be lifted at intervals from November onwards, the roots removed to supply fresh cuttings, and the crowns packed with sand or dry soil in boxes or barrels, light excluded, and the whole kept in a suitable, warm place until the stalks are ready to cut. Crowns, it is well to remember, that have been strongly forced are usually so weakened

that they are not worth replanting, and should therefore be thrown away. Many cultivators do not attempt to force crows the first year from insertion of cuttings, believing that it pays in the long run to let the plants gather strength by giving them the good start of a two-seasons growth.

Sea kale may be also propagated by seeds. The "seeds" of commerce are really the fruits, and before sowing the husk should be broken. The seeds are sown in spring in drills drawn one to two inches deep in carefully pulverised soil. Next year the young plants are transplanted to rich, carefully tilled soil, eighteen inches apart, in rows about two feet asunder, and the surface regularly hoed throughout the season. Crows for forcing may be had at the end of the second, and certainly at the end of the third, year.

Sea kale, as we have said in starting, is a delicious and wholesome vegetable, and ought to be far more extensively grown in Ireland than is at present attempted. It is generally considered to be an expensive luxury in the way of food, but it really need not be so, and anyone following in practice the foregoing instructions can easily secure a cheap and plentiful supply for the dinner table.

Current Topics.

By E. KNOWLTON, F.R.H.S.

"**L**ORD ROSEBERRY gave last month a delightful speech." (*I*de IRISH GARDENING, page 136.) That was so. And it was rather nice of him, too, for we, gardeners, poor men, seldom get a pat on the back or any where else; in fact, that is from the high and mighty, and small wonder that we are somewhat apt, like the Hottentots, to butter one another all over. Well! well! My Lord says of us gardeners—"If I were a ruler, which, thank heaven, I am not, I would do all I could to multiply and increase such men." O Lord! Thank heaven you're not, unless your Lordship would multiply and increase the gardens as well; and even then, in our experience, the gardener is very well able to do the multiplying and increasing business—very well, indeed, without any help from the peerage or even a grandmotherly government. Gardening, of course, increases, but situations for skilled men do not, and since we last effervesced in these pages another place not a hundred miles from Rooterstown is lost to the mere man, where not only a lady is engaged as gardener, but another fair one officiates as her foreman—Place aux Dames.

A recent run through the so-called "Garden of England" revealed the fact that commercial gardening is in a bad way, and this apart from fruit farming. London's six millions—or is it five? we didn't count them—want a lot, of course, yet somehow supplies in a few instances exceed demand, and even the manufacturer of bedding plants, the gorgeous geranium, and luxurious lobelia overdid it this season to the tune of holding back even far into July when big lots were put into Covent gardens not to be got rid of at any price. It seems that only the pioneers of these industries have made fortunes, and on Bexley Heath, where Philip Ladds opened the game forty years ago by covering acres with glass for the

production of popular plants by the million for the million, the Bexley Heathen has now changed the crop for "Qs," "Toms," and "Mels," the trade clipping for cucumbers, tomatoes and melons, and for these prices at the end of August were not only cut to the finest but with "Mels" had touched the vanishing point. It was certainly a pretty sight to see span roots (or is it rooves?) 250 feet long by 30 feet wide clustered with thousands of melons in all their golden glory, the fruits averaging 2½ lbs. in weight; but as we patted the grower on the back during the view, and a big van was being packed with them, along the wires the signal ran, "send no more mels, no market." No reason to ask in the neighbourhood of Bexley Heath, in the words of scripture, why do the Heathens rage?

In the same neighbourhood, by the way, we were pleased with the common acacia, *Robinia pseudo-acacia*, as a street tree, and for this purpose, even for town purposes, the graceful foliaged subject seems peculiarly well adapted, as does the Tree of Heaven (*Ailanthus glandulosa*). Measuring leaves of the latter on six feet growths made this season from hard cut back tops we found them four feet long, and *en route* for Kew, *via* Hammersmith, was noticed grand avenues of the Oriental Plane. Kew is too big to talk much about (the Glasnevin of England we allude to), and Kew is stately as one approaches it by the noble entrance from Kew Green; but Kew is tiring, and after several hours inspecting its treasures, including the Victoria regia, which could not hold a candle, let alone a child on a chair, as we have seen it depicted to specimens we have seen in Glasnevin, we came away from the English Glasnevin more than satisfied with our Irish Kew. And then the great white sepulchre—we mean city, or, to give it its full style and title, The Imperial International Exhibition, which in our experience was not only a misnomer, but somewhat of a fraud, half, or more than half, of its paltry, pinnacled palaces being closed, international being chiefly represented by the Children of Israel who were modestly trading in two-penny trinkets marked at four shillings, and clearing them off at half price, "only two sheeling"; or the catering, which, like our own little international flutter, seemed to have fallen to the lion's share. But Paul Crampel was good; fine masses of big plants, a blaze of bloom, the only redeeming feature, to our thinking, of the plastered palaces over which might have been written—"Ichabod, their glory, hath departed." However, everybody says its glories will be revived next year when re-whitewashed and Japanned.

When doctors differ, and gardeners deride each others practice in the way of fruit tree pruning, summer pruning, winter pruning, all sorts of pruning, and no pruning at all, who is to decide? This is a phrase of culture in which we seem to be in the same fix as the old farmer at the audit dinner with the squire's clerk, "get no farrader." Nevertheless, no one seems to question the wisdom of root pruning, especially with young specimens whose one object in life appears to be timber. Gross growth of wood and gross growth of roots seems interdependent, but is this the result of prior treatment of young fruit trees, of neglect, or too much kindness? Truly, we flatter ourselves in being so much smarter than a past generation who

have long since hung up their spades and gone where all good gardeners go, yet it is with pleasure we rake up out of the ashes of a dead past and revivify one who was a great little man with fruit trees, and fruit too. His pruning practice was nil, but he was a powerful pincher. After a gradual disbudding in spring he was practically pinching plums, pears, apples, and everything that was his the season through. We never saw the pinching principle so persistently and consistently practised by anyone else unless by Braecken of Roebuck Castle, Dundrum, and that, perhaps, should be termed disbudding. Possibly, someone who follows these furbishments saw, some quarter of a century ago, Braecken's superb examples of open air peach culture; if so, they can endorse this tribute to the memory of one who has gone. Truly, there were giants in those days.

strong in bright weather. This plant from the Mediterranean region is certainly well armed, and its development from the bud stage is interesting to watch. The two accompanying photographs show the flower heads of the plant open and closed.

R. M. POLLOCK.

Roses.

By O'DONEL BROWNE, M.D.

A FEW years ago many people held the opinion that the rose did not lend itself to house and garden decoration as well as many other flowers one finds in the average garden, and no doubt they had many points in favour of their argument, but year by year they are losing some of these points. True, it is, that until quite recently most rose hybridisers strove to develop the individual bloom, perfect in every way, more than the class of decorative roses we hear and see so much of nowadays. But with an increasing demand by new rose growers and on account of the newly-made classes at shows all the world over for decorative varieties, the decorative rose is gradually pushing itself more into prominence year by year. There was a time, not so long ago, when we found it a hard job to get six bunches of decorative roses really well shown at most shows, but all this difficulty has, I hope, gone, never to return. Yearly there is a great improvement in the "news" list which are appearing in catalogues, and whereas a few years ago one might count the decorative varieties on one's fingers, now there is quite a big list to be had. What has been the cause of this? Some time ago the late Mr. Turner, of Slough, put out that

wonderful rose, Crimson Rambler, which originally came to us through another person from Japan, and so great was the hit this rose made that there and then people interested in hybridising started crossing this rose with others. An extra stimulus was given us all when the class known as the Wichuriana class came into being. True they could not boast of a very pretty mother, as the ordinary white variety is not very showy, but when she started throwing out off-springs we really saw that but for her we should have been very badly off. Now this class can boast of many beautiful varieties, for what with Dorothy Perkins, Lady Gay, Jersey Beauty, Minnehaha, Dorothy Dennison, and that noble variety Hiawatha, we have nearly every colour imaginable. None of the above varieties made such a name for itself as Dorothy Perkins, and in my opinion this very fine rose is the queen of its class, for had it not been for her we should not have had Lady Gay or that newer sport Dorothy Dennison. These roses are, however, too much alike to their parent, but there is a



Photo by

[C. F. Ball.

CARLINA ACANTHIFOLIA—FLOWER HEAD CLOSED.

Notes from Glasnevin.

Carlina acanthifolia.—This plant is more curious than beautiful, but this fact may appeal to some, and on that account it is worth noting. Being of the thistle family it has a head of flowers, but in this case there is only one solitary head, stemless and surrounded by a rosette of leaves. This rosette measured twenty-two inches across, and the leaves, which are pinnatifid, deeply serrate, and strongly spiny, are woolly on their under surface and bright green and glabrous on the upper. The involucre of bracts which surround this head are dark brown, narrow, stiff, and like the leaves very spiny. The inner whorl of these bracts seems to take the place of the ray florets, and are a shining straw colour about an inch and a half in length. The disk, which stands two inches above the rosette of leaves, is composed of yellow flowers, which open from the outside inwards. This head of flowers closes over completely during rain and at night, and opens stiff and

difference—in Lady Gay the pink is slightly darker, and in D. Dennison the pink is lighter. It is not, however, owing to their colours that they are so popular, but to their freedom of growth, profusion of bloom and lasting qualities. When properly planted and attended to their growth is prodigious during a season, rods of ten and fifteen feet being quite common. The original variety was sent out with the recommendation to let it creep over rough places, such as a rockery, but we have seen that the Wichurianas delight in growing up trellis work or larch poles, but I think they look best when budded on to high standard stocks and allowed to weep with their long, bright, green growths hanging down. They require only very moderate care, and are easily grown, and are not above growing on their own roots when struck as cuttings. But let me here say that I advise you to bud your plants on briars, as by so doing you get a quicker start. They require very little pruning—none, I might say—save to remove all the old and flowered wood and also all those rods which were too late to start into growth the previous year. Pruning should be done about mid-March, retaining all young, ripened rods nearly their full length, but cutting back one or two of the weaker shoots to encourage young growths for the following year to push. A plentiful supply of water should be given frequently and a good hosing or syringing overhead to keep the lovely green foliage free from the loathsome greenfly. Here, I may remark, that numerous complaints round about this district tell me that our plants have suffered terribly from this pest; my own plants look as if soot had been dusted over them—a nasty mixture of soot and honeydew. When cutting sprays for home decoration be content to only cut young wood carrying flowers, as the old wood carrying trusses does not take up sufficient water to prevent your flowers wilting, and when the best of the flowers are over, about mid-August, go over your plants and remove *in toto* all the flowered wood, and lay in carefully those green, sappy rods for next year. By doing this you encourage these young rods to push more into growth and you remove a great many injurious pests at the same time.



GARDEN SAGE is a native of Southern Europe, and is much used in cookery. It is supposed to aid the digestion of rich animal foods. Sage-tea has also a great reputation in some places as a mild stimulant that actually helps, instead of hindering, the work of the stomach. It is said that the Chinese prefer an infusion of sage-leaves to their own world-famed tea. Many people use sage-tea with vinegar as a gargle for sore throat.

Bulbs for Window Boxes.

For a brilliant spring display of graceful form, fresh greenery and purity of colour, nothing can equal our common bulbous plants. We have a large number of varieties to choose from, with almost every shade of colour to meet individual taste in arranging an effective colour scheme. We have the different forms of crocus, white, orange, brown, lilac, blue, purple, and black, with intermediate shades; tulips, all colours, except blue, but including green; hyacinths, white and blue narcissi, in all shades of yellow and yellow and white; *Chionodoxa muscaris*, and scillas in most lovely blues, not to speak of Spanish irises, gladiolas, and others for later flowering. Now is the time to think out the details of a scheme. Purchase the bulbs and plant them without delay in order

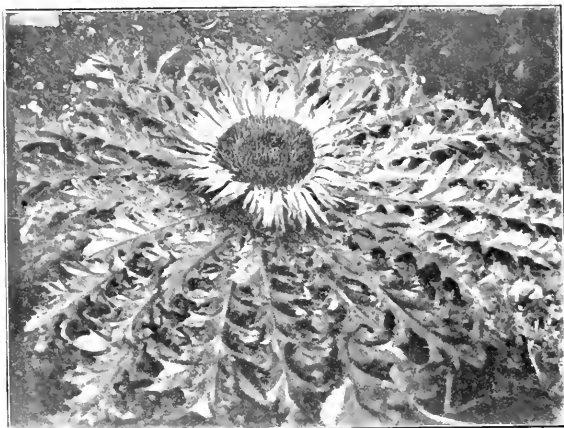


Photo by

(C. F. Ball)

CARLINA ACANTHIFOLIA—FLOWER HEAD OPEN.

to give the plants a good chance. Sometimes plants, other than bulbous, are planted in the same box in order to increase the artistic effect or to prolong the display, such as forget-me-nots, double daisies, wall-flowers, &c. The soil to be used may be a good friable loam, intermixed with leaf-mould or well-decayed manure, with a good sprinkling of sand or grit to keep it open. A little bone meal may be added with advantage. After planting the bulbs mulch the surface with some loose material, and refrain from watering until the shoots appear, and then only when the soil is obviously getting dry. A little artificial fertiliser in a weak solution may be given when the flower stems begin to show. But we repeat, if you want a really pleasing effect, you must follow some previously thought-out scheme, and lose no time in getting your bulbs into the soil. Few things are more grateful to the eye in spring than flowering bulbs, and no one can begrudge the little trouble required to secure for self and others such simple and inexpensive pleasure.

“IRISH GARDENING.”

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Two Gardeners.

EACH of them had a horse to mind, and so the hours of their labour were really longer than from six till six in summer and from daylight till darkness in winter. Seventeen shillings a week and their cottages were their wages. Potatoes and vegetables had, of course, to be grown, but their specialities were flowers and raising new varieties of potatoes. The cottages are covered with honeysuckle and roses, a good index to the gardens themselves, full of roses, dahlias, bulbs, chrysanthemums, sweetwilliam, geraniums, wallflowers, London pride, phloxes, pansies, apple ringie (apple balm), heather reenges (hydrangea), feather fougie (fever few), and many others, both annual and perennial, with plenty of rhubarb and a lot of young and well-kept currant and gooseberry bushes.

Each had several small home-made glass frames, in which flowers were protected and propagated, and in which the new potatoes were sown and grown. The seeds from the potato apples were sown in shallow trays filled with fine sand and peat. They were sprouted under cover and transplanted to the open garden only when all danger of frost was past.

In autumn the tubers were dug up and stored dry till next spring, when they were planted. Selection and elimination did not begin till the second crop was reaped; and when the tubers were three or four years old they were either discarded or “put upon the market.” But putting them upon the market did not mean selling them and making a big profit. It merely meant giving a few tubers to this friend and a few to another, and so on. Yet, though they were neither pushed nor puffed, and although Jimmie Kerr and Rob Forrest have been dead for nearly twenty years, some of their potatoes are still grown in the parish in which they lived.

Rob Forrest's garden had one unusual feature—there was a ring of Druid stones in its midst; and Rob set these up and formed a rockery around about and among them. He was a

wood carter, and so had opportunities of picking up rare ferns and other woodland plants, and with these he clothed his rockery, which is partially shown in the photograph opposite. Nor were these the only accomplishments of Jimmie Kerr and Rob Forrest. Jimmie was the best rider in the parish and the best hedger in the county, if not even in all the south of Scotland. No man in the parish could sing a better song than Rob, and at quoits, or on the bowling green or on the ice (curling), he had scarcely an equal.

JAMES WILSON.

The Gloxinia.

GLOXINIAS will now have finished flowering, and water must be gradually withheld. It is bad practice to withhold water all at once, as the corms are likely to shrivel, causing a weak growth the following year. A temperature of 45° or 50° suits the plants during their period of rest.

Some growers turn the corms out of their pots and lay them in boxes of sand during the winter. Others allow them to rest in their pots, care being taken to keep the corms dry and also to exclude frost from the structure where they are stored. It is necessary to keep the corms from coming in contact with hot-water pipes.

In February a batch of corms may be started into growth, and a month later another. This provides a succession of flowers. If the corms have been allowed to rest in their pots they will require to be taken out and all the old soil shaken off. Re-pot them in small pots, and just cover the crowns with soil. They will not require watering till growth has commenced. The syringe should be used frequently to damp between the pots. When roots fill the small pots the plants should be potted into larger ones. A 5-inch or 6-inch pot is considered large enough for ordinary purposes.

A good potting soil consists of loam, leaf-mould and sharp sand in equal proportions. Two-year-old corms usually give best results. If the plants are required to flower during the early part of the summer the temperature of an intermediate house is required, but very satisfactory results can be had by giving the plants perfectly cool treatment.

Grow the plants in a greenhouse till the end of May, then remove them to an ordinary garden frame. They will make slow, firm growth in this way, and towards the end of

June they will be ready to shift into their flowering pots. Gloxinias require to be shaded during the hottest part of the day, and when the pots become well filled with roots frequent applications of liquid manure are highly beneficial. Plants given cool treatment come into flower early in August, and give a good display in the greenhouse when greenhouse plants are getting scarce.

In growing gloxinias from seed it is best to

THE winter show of the Royal Horticultural Society will be held at Ballsbridge, Dublin, on the 20th and 21st of the present month. We expect an exceptionally fine display of Irish-grown apples, and the Irish apple at its best is hard to beat anywhere. Every fruit grower should make an effort to attend.

At the National Rose Society's autumn show, on September the 10th, Irish-grown roses obtained, as usual, some of the highest honours at the disposal of the judges. Messrs. S. McGredy and Sons, of Portadown, were awarded the silver medal in the nursery-men's class for the best Tea rose in the show (blooms of



A CORNER IN A COTTAGER'S GARDEN

(From a photograph, showing Rob. Forrest amongst his favourite flowers, the majority of which are wild plants, transplanted and cared for).

sow in February in well-drained pans. A compost of loam, leaf-mould and sand, passed through a $\frac{1}{4}$ -inch sieve, is suitable. The seed pans should be removed to a temperature of 65° or 70° . When the seedlings are large enough to handle, prick them off one inch apart in boxes. Shade them from strong sunshine, and syringe daily. Pot into $2\frac{1}{2}$ -inch pots when growth has advanced sufficiently. During the growing season it is necessary to keep the atmosphere moist by occasionally damping down pans and lightly syringing the plants.

WILLIAM DAVIDSON.

Souvenir de Pierre Notting). For the best new roses exhibited three gold medals were awarded, and two of these came to Ireland, one being secured by Hugh Dickson for Miss Cynthia Forde, and the other by S. McGredy and Sons for Mrs. E. J. Holland. Cards of commendation were also received by Alex. Dickson and Sons for Mrs. Frank Bray, and by S. McGredy and Sons for Mrs. Arthur C. Coxhead.



"THE elder is a homely tree,
As in the wood is found;
The first to leaf, the last to fall,
Unfaded to the ground;
Unfaded to the ground, my dear,
Though all leaves die at the end of the year,
Still gowned all in green she's here,
While dimmer the days draw round!"

Pinks and Carnations.



"READER" asks us to explain the botanical differences between pinks and carnations, to name a few good varieties for a small garden, and to add a hint or two on general culture that might be helpful to a mere amateur in gardening.

Pinks and carnations belong to the genus *Dianthus* (the name being derived from the Greek, and meaning Jove's own flower), and easily distinguished from all other genera in the same family by the presence of scales underneath the tubular calyx of the flower. The parent of all the varieties of carnations is *Dianthus caryophyllus*, or clove pink, a plant with a stout stem, much branched and woody below, and carrying very glaucous long-linear leaves, grooved above, and about 4 to 6 inches long. The scales under the calyx are short and broad. The petals are of various colours, and are toothed along the upper margin. The flowers are fragrant. The parent of most of our garden or plumed pinks or Pheasant's Eye is *Dianthus plumarius*, a low-growing, broadly-tufted plant, from 9 to 12 inches high, carrying small glaucous-green linear leaves, with rough edges. The petals are white, pink, or variegated, and have their edges cut into a fringe of slender segments. This species is more tufted in habit and hardier in constitution than the carnation, and its scented, freely-produced flowers have been always great favourites in gardens, although they do not seem to appeal to the popular taste so much as carnations. This, to a large extent, may be due to the fact that they are not exhibition flowers, and therefore have been subjected to comparative neglect by the florists. We know that too many "gardeners" select the things they grow not so much by independent personal preferences as by what they see printed and praised in florists' catalogues. Yet pinks deserve more attention, and as they have wide powers of variation, hybridise freely and produce seed in abundance, any amateur with ordinary discrimination may raise up charming varieties from his own seeds. Any offspring of *Dianthus plumarius* will thrive in a well-drained soil in a sunny position, and hence they are specially useful in covering dry, sunny banks and borders. The presence of stagnant water in the soil is fatal to success in growing pinks. They should always be planted on raised ground, while an annual top-dressing of old or well-decayed manure will be very helpful in promoting vigorous growth and a good show of flowers.

In the choice of varieties we would advise the amateur to leave the exhibition kinds severely alone and plant only those that will fill his border with June beauty, and laden the air with rich perfume. As to colour, we have pure whites in Albino, and in Mrs. Sinkins, white; claret-laced in Mrs. Pettifer, a blood-red in Napoleon III., light rose with crimson blotches in Anne Boleyn, doubles in *Multiflorus flore-peno* and *Multiflorus roseus*, and many more. There are other species and varieties of pinks, but we will here mention only one other, the cheddar pink (*Dianthus sinensis*), called after its only native station in the British Isles—the

Cheddar Rocks in Somersetshire. Why we refer to it specially is because it readily hybridises with *Dianthus plumarius*, and doubtless some new desirable forms might be secured by crossing and selection, and we commend the work to any enthusiastic amateur who would care to undertake the necessary experiments. This particular pink thrives best in a soil containing a fair amount of lime. Such a soil may be easily prepared by intermixing ordinary loam with old lime rubble.

The carnation or clove-pink is a great favourite, and has been for centuries back. The flowers inherit great variability as to colour. Pink is the colour of the type; variations from this represent every colour of the spectrum excepting blue. Florists for ages have been playing about with the coloration of carnations, and the game between them and nature still goes on. They have set up certain artificial classes representing their ideas of carnation beauty, and all exhibitors were, and we suppose still are, obliged to conform to these ideas or be disqualified. Thus we have (1) the *Flakes* distinguished by having two colours arranged in stripes which must run lengthwise along the petals; (2) the *Bizarres* with three colours in stripes or spots scattered anyhow; (3) *Picotees* with petals one colour, but edged with a different—and if possible—strikingly different colour; and (4) *Painted Ladies* with the under-side of each petal white and the upper coloured red or purple.

The natural colour is a "self" or one colour like the charming old crimson clove, and growers of taste select these for their own pleasure, and leave the "Painted Ladies" and other artificialities to the prize-bunters and show-tents. Within recent years races of beautiful self-coloured carnations have been raised, such as Alice (white), Fiery Cross (scarlet), Purple Emperor, Mrs. Lora Armstrong (salmon), Mrs. Reynolds Hole (salmon-apricot), and lots more. Many of the French-raised kinds are well spoken of, such as Countess of Paris, Madame Roland, and Madame Lafausse.

In planting carnations in the border (and it is only for this purpose that we are writing) put them down in bold clumps, not in lines or dotted about among other plants. Select a rich loam with plenty of leaf-mould or old manure and coarse sand, or gritty material (mortar rubbish is good) intermixed. The plants are easily propagated by layers, and fresh stocks are thus raised each year. The old plants, after removal of the rooted "layers," may be destroyed. Now is the time to plant.



MARJORAM is an aromatic pot herb largely used for flavouring soups. It grows well in a light soil, and revels in a chalky one. It is a strong sun lover. Bees are apparently very fond of it, and clumps of it might well be planted wherever bees are kept.

"BUT those (herbs) that perfume the air most delightfully, not passed by as the rest, but being trodden upon and crushed, are three—that is, burnet, wild thyme, and water-mints. Therefore you are to set whole alleys of them, to have the pleasure when you walk or tread."—*Bacon*.

Tourist's Pleasant Experience.

By J. J. T.

WHILST on a tour in the South of Ireland recently I took the opportunity of visiting one or two of the chief gardens there, and was greatly enamoured with that of Lady Annaly's, at Gowran Castle, Co. Kilkenny. The courteous gardener, Mr. Gerald Roche, took a lot of trouble to show me over the place, and I must frankly admit that I have never yet seen such successful products of enterprise.

Briefly, the garden consists of about six square acres, surrounded by a wall about twelve feet in height. In the centre of the garden is an immense basin for a water supply. Plum trees occupy a commanding position round the walls, and without exaggeration some of the fruit which I saw resembled a cricket ball for size and shape. One of the items which caught my eye was a centre walk seven feet in width, arched from end to end with youthful Kentish apple trees, the fruit on which was most prolific. It was a most uncommon spectacle, especially to the Londoner. Other apple trees were equally attractive, and one which I could not resist taking a photograph of was about four feet in height, quite small in proportion, contained upwards of two hundred apples of uniform size. Further on I was shown over the several large houses of glass, and here my eye was taken with specimens of every possible species of plant that one only has an opportunity of seeing in such places as Kew Gardens. Thousands of bunches of grapes, most of which appeared to be full-sized, gave clear proof of the abilities of the gardener. I was then shown the peaches, nectarines and other wall fruit, and like those I had already seen they also appeared to pay for the expert attention they had received. My next experience was to solve a conundrum which I confess my lack of experience caused me to give it my best. I was required to state in what form I could plant seventy-five roots of strawberries, nine inches apart, in a space of two square feet; but I had to

be shown the operation. I, however, took a careful note of how it was done, and I am well on the road to spring a little surprise on my London neighbours by a re-production of the scheme.

Turning to the north end of the garden my attention was drawn to a large space containing a quantity of the St. Brigid anemones, and also to a space of about a square acre in extent where the staff were busily engaged planting in beds the bulbs of the same flower expected to be ready for show early next spring. I had heard a lot of this species, and had seen it at Edinburgh, Shrewsbury, Dublin, and various other shows where, by the way, it has carried off first and other prizes, but I had not had the pleasure of seeing the preliminary stages of propagation before. I made minute enquiries, complete details were given me freely, and perhaps some of your readers may profit by the several points which I picked up:

Directions for the Successful Growing of the St. Brigid Anemones.

This root is a very gross feeder, and requires well-manured soil. It is preferable to sow in ground that has been well manured for a crop the previous year; if this is not available, prepare a bed four feet wide, and remove the earth to a depth of six inches; place a good layer of stable manure, cover firmly with a layer of earth; then put back remainder of earth, and create a furrow at each side.

This should leave a raised bed four to six inches in height. All coarse earth should be raked off, after which the bed should be given a good coat of basic slag and raked over. The roots can then be planted nine inches apart in four rows two inches in depth. Anemones do not thrive in heavy soil, therefore a good top-dressing of old mortar might be used to loosen it. Anemones are lovers of sunshine, and should be grown in the open, not under trees. Large, old roots should be discarded, and one year old roots used only if the grower wants well-formed blooms. October is the best month to plant roots. Seed may be treated in the same way, only care must be used to have earth very fine, and to sow in rows nine inches apart, and not broadcast. If seeds are sown in May and transplanted in September, the blooms from



[Photo by]

[Wm. Watson & Sons]

"MRS. LORA ARMSTRONG." A HARDY BORDER CARNATION.

Flowers, salmon-apricot. Lasts well in a cut state—good or table-decoration.

these roots in the following spring will be much finer than old roots, provided they are put in a good bed. All roots must be dried after one year's flowering, otherwise results will be poor. I would mention that a speciality of the propagation of this species has been made, and the show-rooms possess sufficient proof of the success that has been attained. It must not be imagined that such results have been achieved without ambition and enterprise. A varied experience at Kew Gardens and Glasnevin Royal Botanic Gardens, in addition to other engagements in several of the leading gardens in Ireland, is the secret of the gardener's ability.

I have not referred to the other flowers generally, but, as a matter of fact, the stock is one of splendour throughout, the most original and expensive sorts being extremely prominent. A staff of apprentices live on the premises, and are carefully trained and educated to a very high standard of efficiency, so much so that they become qualified to take up responsible positions in all parts of the United Kingdom. My experience has convinced me that the Irish gardener has established himself as a serious competitor with his English and Scottish brethren.

Notes.

GARDENERS will learn with much regret the news of the sudden death of Mr. Peter Barr, the well-known florist, which took place on the 18th of September last, after 85 years of strenuous life. Mr. Barr, at the age of 20, left his native city of Glasgow and came to Newry, but he did not remain long in Ireland, leaving in about a year's time to take up duty in an English nursery. As a collector and hybridiser of Narcissi, Mr. Barr was pre-eminent, and his name will be long cherished by all followers of the cult of the daffodil.

THE publishers of the "Illustrated Poultry Record" send us a copy of the Record Poultry Book, sold at the low price of one penny. It is intended for the use of small holders and cottagers, and is great value for the money. It is the joint work of practical men well known in the poultry world, and its advice may be taken as authoritative and sound.

"HINTS and Wrinkles on Tomato Culture for Market" (by J. Stoddart) is the title of a shilling booklet published by the Lockwood Press of London. It represents a series of articles written by a business man for business men, and will be found most helpful to gardeners who purpose growing these popular fruits for market.

A PLANT alleged to be new, described indeed by the distributor (Mr. J. Lewis Childs of New York) as "Luther Burbank's Greatest Creation," and listed as the "Wonderberry," has been the subject of a good deal of talk and discussion during the past season. We have at the present time a batch of these plants growing in the open garden, and fail to see any difference between them and black solanum (*Solanum nigrum*), a plant common in many districts as an annual weed. Why it was ever introduced as a new plant,

and least of all as a "Wonderberry," is difficult to understand. It is a plant of wide geographical range and very variable, especially in warmer regions. In this country its berries are always black, hence its specific name "nigrum," but in other parts of Europe they may be green, yellow, or a dingy red. In this country they are believed to be poisonous, although we are told that they are freely used for making fruit pies in different parts of the United States. After growing these "Wonderberries" it is simply amazing that any firm with a reputation to lose should advertise them as "Unsurpassed for eating raw, cooked, canned or preserved in any form. The Greatest garden fruit Ever introduced, and equally Valuable in hot, dry, cold, or wet climates."

In the instructive lists of "What we Import," published in the *Sinn Eoin* daily, we have during the past month repeatedly seen the item "caraway seed"—so many bags. One day, for example, 100 bags were landed in Dublin, and on another day 85 bags were landed in Cork. These aromatic "seed" are of course imported to be used by bakers and cake manufacturers; but the point is, why do we not grow caraway as a crop ourselves? The soil and climate are alike suitable, and the plants are as easy to grow as most other field crops. Caraway grows wild in many parts of the British Isles, and belongs to the same family as the carrot. It loves a moist soil. It is a biennial, and therefore flowers and seeds in the second year. The "seeds" are the ripened fruits, each fruit breaking into two parts, as is the custom in the family. The demand for caraway seed is limited we know, but still it ought to pay well at present prices, and moreover, why import if we can grow?

A NEW process for making bread direct from the wheat grain has been invented by two Frenchmen (Desgoffe and Georges). The grains are soaked in tepid water (a pint of water to a pound weight of wheat) until they swell up and get soft to the core. This takes about six hours. The softened grains are then passed through the cylinder of a machine provided with a central shaft in the form of a screw that fits loosely in the cylinder. The inner surface of the cylinder is also in the form of a screw the threads of which, however, run in a direction contrary to the shaft. The space between the moving shaft and the fixed cylinder gradually lessens from the entrance to the exit, so that the grain is gradually crushed finer and finer as it passes along. The yeast or salt may be added before or after "grinding." After passing through the cylinder the moist, crushed mass is kneaded between two surfaces (the "glider") channelled in opposite directions. The upper one is fixed to the screw, and is therefore movable, and the other to the cylinder, and is therefore at rest. From a central hole in the latter the kneaded dough passes out in a continuous roll. This is collected and set aside in a warm place to ferment, after which it is fashioned into loaves and baked in the ordinary way. The invention appears to be an important one. There is no waste (100 pounds of wheat make 150 pounds of bread). The bread is most nutritious and wholesome, and the cost of production is considerably reduced.



October,
The Month's Work.

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

SPRING BEDDING.—Where summer flowering subjects can be cleared, it is well to do so at once, and when the beds are dug the refilling of them should be pushed forward. Pansies are best when planted in the autumn. Beds of mixed colours look nice. Polyanthus should also be planted now, the crimson shades in beds by themselves and the yellow shades also in other beds. They look more effective planted thus than where all colours are mixed in the same border. Wallflower plants should be put in now and not left till too late in the season, otherwise many lower leaves will be lost. The soil should be just moderately rich, and made firm around the roots. See also that they are planted sufficiently close to fill the beds. I noted some poor beds in various gardens last spring through the beds not being filled properly at planting time. Silenes, nysosotis, aubretias, and similar plants should also be got in without delay. Bulbs should also be all in the beds during October. Daffodils in beds of one variety are always welcome in spring, and all tulip lovers who have hitherto only grown the ordinary bedding kinds should make an effort to plant some of the glorious Cottage Darwin and other May flowering species. When once planted, these late tulips can be safely left in the ground each winter, which adds very much to their value, and any ordinary soil will suit them, though what they like best is a deep sandy loam.

CARNATIONS.—As stated in a previous issue, where the soil is dry and light in gardens, carnation layers are best planted in October. It is important to change the position yearly where the carnations are grown. Turfy loam, road scrapings, and old cow manure mixed and worked into the borders or beds will grow carnations to perfection. Place the plants a foot apart each way and sufficiently deep, so that the wind will not twist them at the collar. The common white pinks may now be pulled to pieces and replanted in fresh positions.

EDGINGS FOR WALKS.—These give a considerable amount of work and anxiety. Patchy and broken edgings give an unsightly appearance to borders no matter how nicely they may be filled. Boxwood, of course, is the favourite material used, but refuses to grow in many places. I like edgings of stones formed in rockery fashion and planted with alpinas. Lately I saw in a garden the walks edged with *Dactylis glomerata variegata*, the white and green cock's-foot grass, and very beautiful it looked, especially when the

sun shone upon it. This edging could be planted any time during the winter, and as every little bit grows it may be laid in quite thinly, and lasting good for three years it will not require renewing till that time is past.

PYRETHRUMS.—These are ideal plants for an amateur to grow, they are perfectly hardy, and withstand a lot of rough treatment. Large roots should now be lifted, divided and planted in new positions. When allowed to remain in the same place for years they diminish in strength. Pyrethrums possess great masses of fibrous roots, and therefore the beds should be well manured and deeply trenched. Broken up thus and transplanted into good ground, the plants will give a fine display of large blooms next year.

CHRYSANTHEMUMS.—Where these have been grown in the open borders all summer with a view to flowering late, now is a good time to lift and place them on borders in cinerias and peach-houses that have been cleared, to finish their flowering there. It is only necessary to spread a little soil over the roots, and then water them. Plants in full flower in the open must be protected from frosts at night.

GENERAL REMARKS.—As one interested in gardening a holiday's opportunity is generally taken in visiting gardens of note and gleaning any wrinkles that may be useful in future. Lately I have returned from spending a three weeks' holiday across the channel, and may here give a few items that came under my observation. Drummond Castle, in Perthshire, has the finest flower garden in all Scotland, and I found *Calceolaria amplexicaulis* particularly dwarf and free. I there learnt that their system of propagation was to put in a few boxfuls of cuttings now, and from these strike the tops in a hot frame in spring. These plants made better and dwarfer flowering stuff than relying on autumn struck plants. In these same gardens and in several others I found Dorothy Perkins rose used as a four feet standard with charming effect. Lines of these twenty feet apart in a flower border are really handsome and striking, and should be more often seen. Beds of dwarf and intermediate antirrhinums in distinct colours are grand lasting subjects for the flower garden. The seed may be thinly sown now in rather poor soil, and transplanted in spring for early flowering. To give an autumn display they should be sown in gentle heat in February, and grown on to plant out in May. In another garden I found a capital arrangement where large square beds were filled with a pink pentstemon and "dot" plants of white phlox standing above the pink.

Several places adopted the striking combination of

mixing *Lobelia cardinalis*, Queen Victoria, and the blue *Salvia patens*, and very pretty it looks. The yearly plan of striking phloxes in autumn tends to keep them dwarf, and fine lines were to be seen of choice sorts that stood from a foot to two feet high, with handsome heads of flower. Extra fine sorts are *Phlox selma*, Mrs. Oliver, Gen. Van Heretst, Tapis Blanc, Spirite, Rheingaut, Gen. Giovannelli, Henry Regnault, and Countess de Jarmae. This last variety has variegated white and green foliage, and even without flower would make a pretty and interesting bed. Cuttings inserted in cold frames now should be dewed over every second morning so as to prevent flagging.

VIOLETS.—Plants intended for winter flowering in cold frames should now be lifted with good balls and planted about a foot apart in soil made up from old cucumber frames, leaf soil, and good heavy loam. Keep them close to the glass, with plenty of air, as dampness causes great trouble among violets in winter.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

THE gathering of apples and pears demands almost daily attention throughout this month. Gather as it is found the fruit parts readily from the trees. An examination it will be found that many fruits on a particular tree may part readily, while the remainder still holds firm. This clearly points out that trees should not be cleared of all its fruit at the same time, but should be systematically done, only those parting readily being taken, and the remainder allowed a few days longer, when they should be again examined, and if ready gathered. This applies to all kinds of pears and apples, but more particularly to choice varieties and those requiring to be stored for a length of time. The longer they are allowed to hang on the trees the better they will keep and the full flavour be preserved. The utmost care must be exercised in collecting fruit that they be not bruised; rough, careless handling being disastrous to the keeping powers of any fruit. Collect only when quite dry, and place in shallow baskets, in which they are to be carried to the store-house. A note here as regards the fruit-house may not be out of place. A house with a northern exposure is to be preferred, or one shaded from direct sunlight for the greater portion of the day. In such a position, if quite damp and frost-proof, with ventilation sufficient to carry off any dampness which may arise through sweating of fruit, apples and pears will keep perfectly for many months, provided they have been handled with care. Fire heat is not required no matter how cold the weather, in fact is most injurious—at such times sacks or mats hung over windows and against doors, &c., being quite sufficient. Shelves should be fitted up all round the inside; these may be from 2½ to 3 feet wide, and 15 inches apart. If the house is sufficiently large a centre stand could be erected with shelves similarly placed, but may be wider if room permits, as this can be worked on from either side. A large quantity of fruit could be stored in quite a small house if fitted up properly. If such a house be not attached to the fruit grounds any outhouse

may be selected to do duty for it, but it must be clean and sweet, and used for no other purpose while so employed. A good way to store in such places would be to fill boxes, such as are used for sprouting potatoes, or other shallow boxes, and pile them one on top of the other. In this way a considerable quantity might be kept in quite a small house, or they may be spread over the floor. Good keeping varieties keep well in this way. I have known Bramley keep until March, piled almost two feet deep on the floor of an outhouse, and sold them at a very handsome figure. The trouble about keeping them in this way is that it is very difficult to get at them to examine. The storing of apples is a most important matter for the fruit grower. If he is to make the most of his fruit and get the highest price possible he must store and put on the market at a time when high prices are obtainable. During late autumn, and up to December, our fruit markets are generally very plentifully supplied, and good prices are difficult to get unless for very finest fruit. At the present time in Portadown and Belfast markets the price of the best Grenadier apples ranges from 6s. to 10s. per barrel, according to quality. Our markets at the present time are pretty full of a lot of very inferior quality. Apples, indeed! No wonder the prices are not high. Many barrels are sold for little more than that usually paid for boiling fruit, and to put good quality late keeping varieties on the market at such a time, as is often done, would be a very great mistake. In the first place, it tends to keep down prices of fruit now in season, besides selling such for perhaps less than half their value.

THE WINTER MOTH.—Perhaps the most destructive of all insects in our orchards is the caterpillar of this moth. They attack apples in particular. They often quite clear the trees of leaves early in summer; in fact, their attack is worse when leaves are just unfolding. The moth emerges from its pupal stage during October and on till the end of year. The females, being wingless, have to crawl up the stems of trees, they usually lay their eggs in cracks or crevices in the branches and at the base of buds. To catch the females as they ascend the trees is one of the most effectual modes of destruction, and where they have been troublesome last season this should be done at once. Take some strips of stout brown paper about six inches wide and fasten to trunk of tree just below the bottom branches, and smear over with good cart grease, or one of the many preparations sold for the purpose. This must be kept fresh by being renewed when it gets dry; if this be persevered with for three months many hundreds of the females will be destroyed. The trees should also be sprayed with caustic spray during the resting period. This removes many of their hiding places, and possibly destroys many of their eggs. Arsenical spraying just as the leaves begin to expand, when the caterpillars are fading, is a sure means of destroying them. Trees having stakes as supports must have the stakes greased too, as many of them ascend by this means.

GENERAL REMARKS.—Preparations should now be made for fresh plantations of fruit trees and bushes. The better way to get the ground ready for these is by deeply digging the whole site, or deep ploughing if digging be out of the question, as it is in many places owing to the scarcity of labour. The fruit grower who

wishes to make additions to his present stock, and prospective fruit growers must now make up their minds as to what they intend to plant, and order accordingly. The earlier you get your order placed with the nurseryman the better for yourself. He will execute the order at the proper time. But do not try to cut him down in his prices too much, otherwise you will not get what you might like. If you are willing to pay a fair price you are entitled to get good value for your money, but you need not expect high-class plants for the price of low-class stuff. Parings of edges of roads, &c., and also old soil heaps, and road scrapings, leaf-mould, and such like material, if collected and put into a heap and mixed together a time or two, makes first-class stuff for working round and between roots of trees that want a stimulant. It would also be useful for working in when planting trees and after root-pruning. There are many uses to which such a compost could be put, and whenever an opportunity offers this heap should have additions made to it.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

IN October the garden begins to put on the aspect of winter, and the principal work will be clearing off the remains of crops, as scarlet runners, cauliflowers, turnips, &c.; removing dead leaves from growing crops, as sea kale; storing root crops, as beet, carrots, &c., and getting vacant ground dug, trenched or ridged up for winter as the case may require.

In tilling ground before winter the surface ought to be left as rough as possible. By thus exposing the greatest surface the action of frost, snow and rain, contact with air, and other natural forces makes land far more fertile as well as more healthy and friable than when left level and unbroken.

TRENCHING.—It is nearly impossible to get satisfactory crops from old garden soils without trenching from time to time. By judiciously raising some of the sub-soil and mixing it in the surface (only some portion at a time), some of the exhausted mineral constituents are restored, and the greater root range soon tells its own tale. This is true and trite enough, but it may be repeated and must be repeated for some time yet.

GENERAL WORK.—Remove weeds from the ground at once after hoeing, as at this season these soon revive. Ground cleared of potatoes, French beans, &c., may be cropped with cabbage for spring use. Ellam's Early, planted out firmly in a sunny aspect about one foot apart between the plants every way, will give a first early supply. Thin winter spinach to about six inches apart. At the beginning of the month cauliflowers, as they form heads, will be in danger of the effect of frost. To prevent this turn down the leaves, breaking the mid-rib, for protection for the hearts. Towards the end of the month it may be necessary to give better shelter. Be then in readiness to lay these in by the heels in some convenient spot facing north, where they can be covered with mats or straw, or some other covering, when

severe frost threatens. Young cauliflower plants to stand winter in frames and hand lights should be fully exposed night and day unless during frost or continuous rain. Mushroom beds should be formed indoors. In this work be sure that the spawn is obtained from a trustworthy source, and that the bed is made so that there will be no violent heating with consequent quick decline. This can be prevented only by thoroughly blending and turning proper heating material for some days in preparation till of the required sweetness, and after, by putting the bed firmly together.

STORING OF ROOTS.—Towards the end of the month it may be time to get beet and carrots stored. In storing these crops the mistake is sometimes made of cutting the leaves off close to the crown, decay of the root often following. Another mistake is that sometimes these roots are stored in a comparatively warm place, or in a place that may be warm on sunny days, when growth soon starts again. This growth greatly takes from the flavour and colour of beet, and renders carrots more woody in tissue. Beet ought to be taken up carefully, so that no small root may be broken or the body of the root in any way bruised, and the leaves removed by a twist of the hand. Carrots should also have the leaves removed by hand. If stored in sand in an open shed facing north, take care not to let extreme frost reach them. This can be done by covering when necessary. These roots can be preserved better and longer in such places than in a warmer position.

Bees.

By T. MAGUIRE, The Orchard, Enniskillen.

NOW that the honey season is over, the bees (let us hope) well supplied with stores for the winter, the hives made water-tight and secured from being blown over by storms, and all appliances stored away snug and dry, we can lean over our garden gate and gossip about such matters as the local show.

We have had a very fine show here in Enniskillen—fine all round, flowers, fruit, vegetables, industries, but the honey was the most striking exhibit of all. The entries totalled 84, and nearly all were staged. Every section was glazed and laced, and, arranged as they were in six tiers on a snow-white staging, they formed a most imposing array. The quality, too, was superb; indeed one wondered how so much really first class stuff could be turned out in so indifferent a season—not a section in the lot that one need be ashamed to bring anywhere—so that Mr. Crawford, of Castledearg, who had the onerous task of judging them, must have looked aghast when he saw the task before him. However, he happens to be a veteran bee-keeper himself, and he went coolly and methodically to work, with the result that when his awards were made not a single growl was to be heard. No doubt the system of point judging adopted was a great help in this respect. Cards were printed showing the points possible and those obtained, and if any unsuccessful exhibitor felt aggrieved he had only to look at the cards and see

where his weakness lay. Point judging, besides this advantage, is of great educational value, and ought to be generally adopted. The scale of points was as follows:—Comb honey, 10 points each for (a) perfection of filling, (b) capping, (c) aroma, flavour and consistency, (d) neatness of glazing, (e) uniformity and cleanliness; run honey, 10 points each for (a) density, colour, consistency, (b) aroma and flavour, (c) freedom from suspended matter and candying, (d) uniformity of filling, suitability of covering, (e) uniformity and appearance of whole exhibit; wax, 10 points each for (a) appearance and brightness, (b) absence of dross, (c) colour. Strange to say, nearly all the prizes fell to novices, and almost invariably to those lucky ones located near lime trees. The poor blackberrytes were in the halfpenny place, though the blackberry honey this season is very fine. The beautiful pearly capping got off the limes is very hard to beat. I heard that one inveterate exhibitor who for years has been accustomed to collar the principal prizes everywhere he goes turned up with his little box of sections. He glanced down the stand, gasped, and then quietly shoved his little box of sections into a secluded corner unopened, and stole away with an air of assumed nonchalance. How our county instructor, Mr. Brock, succeeded in bringing out that splendid display is a marvel. He seems, like Father O'Flynn, "to have a wonderful way with him," and can work up enthusiasm in the most unpromising material. He flies about on his three-speed like a colossal fairy, and works miracles. To day you hear a cottager making primitive inquiries about smothering bees. In three months' time the fairy has been at work, and behold that cottager is found delivering impromptu lectures on ventilation across the hedge or airing a new system of queen-rearing over the tail of his donkey-cart, and he turns up smiling at the next show with his honey and wax, and beats the veterans all to fits.

The class for "get up" was interesting and beneficial. The local shopkeepers got a few tips which they should profit by. There is great room for improvement in the display of honey in shops, and the ingenuity brought to bear in local shows ought to help. The parcels post class is also very important and instructive, and was well contested here with sixteen entries; the crate arrangement recommended by the Department's book seeming to be favourite, though a rather expensive-looking box came in first. Run honey was lacking the usual display of clover, not so fine as other years. Here again the lime trees scored.

The Herbaceous Border.

By FRANK HUDSON.

THE work for this month is to cut away all decayed flower stalks and leaves. All bulbs should be planted as soon as possible. Plant-out all spring and early summer plants, such as wall flowers, polyanthus, forget-me-not, silene, sweet Williams, Canterbury bells, &c.; also put out rooted cuttings of pinks, penstemons, layers of carnations or other plants grown from seeds or cuttings intended for the border. Before the plants are put out the ground should get a

dressing of manure forked in. Do not be in a hurry to plant if the border is very dry, unless you are prepared to water artificially until the plants are established.

October is a good season of the year to start the making of a border for herbaceous plants, as in many gardens other work could be left over while the making of the border was going on. It is essential that the work should be done thoroughly, as the soil must be fit to support strong-growing plants for years. Select a site facing south or south-east. See that the drainage is perfect. If the soil is shallow, add fresh soil taken from clean, old pasture if possible. If the soil is heavy, add sand; if too light, add heavy clay. In making the border add plenty of manure. The plants can be put in at once or left over until next March.

Answers to Correspondents.

Mushrooms.

A CORRESPONDENT asks for information by which she will be able to distinguish the edible mushroom from similar fungi not edible. This is difficult without going into a technical description. We may, however, indicate



THE COMMON (OR EDIBLE) MUSHROOM

(*Agaricus Campestris*)

a few of the more easily recognisable characters of the ordinary mushroom—(1) the stalk is solid, not hollow, and relatively stout; (2) it is provided with a "collar" round the (approximately) middle length of the stalk; (3) the gills are pinkish in colour, passing to a brownish-purple when ripe; (4) the cap remains convex until it becomes quite old; and (5) the flesh is comparatively firm.

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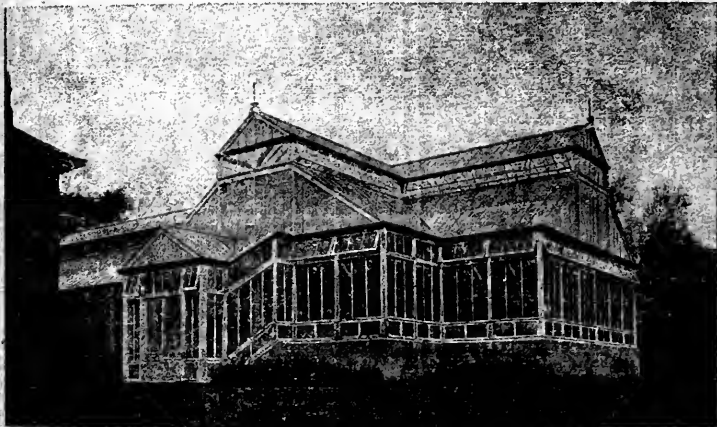
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Irish Gardening

CONTENTS

	PAGE		PAGE
New Plants from China	161	Notes	169
Rose Mrs. John Bateman (Illustrated)	162	Royal Horticultural Society's Winter Show (Illustrated)	170
Roses	163	The Sowing of Seeds	172
The Lilacs (Syringa)	164	The Reader (Illustrated)	173
Notes from Glasnevin (Illustrated) .	165	The Month's Work in the—	
Greenhouse Gardening	165	Flower Garden	174
Arbor Day	166	Fruit Grounds	175
Current Topics	167	Vegetable Garden	176
The Fruit Show at Ballsbridge . . .	168		

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No.	Name	No.	Name
1	The Warble Fly.	52	Flax Experiments.
2	<i>Out of Print.</i>	53	The Construction of a Cowhouse
3	<i>Out of Print.</i>	54	Calf Meal.
4	<i>Out of Print.</i>	55	The Apple.
5	<i>Out of Print.</i>	56	Cultivation of the Root Crop.
6	Charlock (or Preshaugh) Spraying	57	Fruit Packing.
7	Fluke in Sheep.	58	Sprouting Seed Potatoes.
8	Timothy Meadows.	59	Seed Testing Station for Ireland.
9	The Turnip Fly.	60	The Packing of Butter.
10	Wireworms.	61	Field Experiments—Wheat.
11	Prevention of White Scour in Calves.	62	Plans for Creamery Buildings.
12	<i>Out of Print.</i>	63	"Redwater" or "Blood Murrain" in Cattle.
13	Contagious Abortion in Cattle.	64	Varieties of Fruit suitable for cultivation in Ireland.
14	Prevention of Potato Blight;	65	Forestry: The Planting of Waste Lands.
15	Fertilizers and Feeding Stuffs Act Regulations, 1907.	66	Forestry: The Proper Method of Planting Forest Trees.
16	Sheep Scab.	67	Forestry: Trees for Poles and Timber.
17	The Use and Purchase of Manures.	68	Forestry: Trees for Shelter and Ornament.
18	Swine Fever.	69	The Prevention of Tuberculosis in Cattle.
19	Early Potato Growing.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
20	Calf Rearing.	71	Forestry: The Management of Plantations.
21	Diseases of Poultry—Gapes.	72	Forestry: Felling and Selling Timber.
22	Basic Slag.	73	The Planting and Management of Hedges.
23	Dishorning Calves.	74	Some Common Parasites of the Sheep.
24	Care and Treatment of Premium Bulls.	75	Barley Sowing.
25	Fowl Cholera.	76	American Gooseberry Mildew.
26	Winter Fattening of Cattle.	77	Hour and Wasting in Young Cattle.
27	Breeding and Feeding of Pigs.	78	Some Buttermaking.
28	Blackleg, Black Quarter, or Blue Quarter.	79	The Cultivation of Small Fruits
29	Flax Seed.	80	Catch Crops.
30	Poultry Parasites—Fleas, Mites, and Lice.	81	Potato Culture on Small Farms.
31	Winter Egg Production.	82	Cultivation of Main Crop Potatoes.
32	Rearing and Fattening of Turkeys.	83	Cultivation of Osiers.
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34	The Revival of Tillage.	85	Some Injurious Orchard Insects.
35	The Liming of Land.	86	Dirty Milk.
36	Field Experiments—Barley.	87	Barley Threshing.
37	" " Meadow Hay.	88	Instructions for the Home Bottling of Fruit.
38	" " Potatoes.	89	The Construction of Piggeries.
39	" " Mangolds.	90	Advantages of Early Ploughing.
40	" " Oats.	91	Black Scab in Potatoes.
41	" " Turnips.	92	Home Preservation of Eggs.
42	Permanent Pasture Grasses.	93	Marketing Wild Fruits.
43	The Rearing and Management of Chickens.	94	Cost of Forest Planting.
44	" Husk" or "Hoose" in Calves.	95	Store Cattle or Butter, Bacon and Eggs.
45	Ringworm on Cattle.		
46	Haymaking.		
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A MONTHLY JOURNAL DEVOTED TO THE
ADVANCEMENT OF HORTICULTURE AND
ARBORICULTURE IN IRELAND

NOVEMBER
1899

New Plants from China.

By the HON. VICARY GIBBS, Aldclough House, Elstree.

IT may interest your readers to hear something of the plants collected by Mr. Wilson in his last visit to China, which he undertook for a syndicate that was organised by Professor Sargent of the Arnold Arboretum at Harvard University, U.S.A.

During the last eighteen months we have raised an immense number of these plants from seed, and though it is rather early in the day to speak confidently they show every promise of furnishing most valuable and novel ornaments to our gardens, many of which should prove hardy not only in your favoured climate, but in almost every part of the United Kingdom. In the very large collection which Mr. Wilson made there are included many plants which have already for a long time been in cultivation in these islands, but in that case, as he explained to me, the seeds have been gathered from a much higher altitude than the original introductions, in the reasonable expectation that thus a much more robust strain might be secured.

Naturally during the past season we have had many visits from botanists and collectors anxious to inspect these novelties, some of which are not to be seen anywhere else except in their native habitat in Central China; and in this connection I may say that I am always pleased to grant permission to anyone, amateur or professional, who is really interested in the subject, to view this collection.

It is evidence of the marvellous richness of the flora of China, as compared with any other part of the Globe, that on this one trip, from one district alone, Mr. Wilson has collected about forty different species of *Rubus* showing a striking variety and beauty of form and colouring, and some of them bearing little or

no superficial resemblance to a bramble at all. Their chief merit is in the foliage, fruit, and colour of stems in winter, but a few of them have yet flowered with us, and the only one to show marked excellence in this respect is *R. rosaflorens*, which has a large white flower something like *R. deliciosus*; the foliage and general effect, however, is very different, being more like *Spirea assurgens*. Then we have *R. corcanus* with purplish stems; *R. polytrichus*, which Wilson speaks of as very ornamental; *R. Playfairi*, with leaves like a Virginia creeper; *R. lambertianus*, with a vine-like leaf; *R. Irenæus*, a dwarf procumbent form with large, round leaves something like coltsfoot, the young shoots being of a clear, bright brown; *R. Ichangensis*, with long, pointed, metallic, glaucous foliage; *R. parkeri*, similar in shape of leaf, but of rich, dark-green colour and rough texture. Then I must not omit *R. bambusarum*, with narrow, elegant leaflets—perhaps the most beautiful of all—which Wilson discovered on his first visit to China for Messrs. Veitch. Of the quantity of unnamed *Rubus*, I will only mention No. 81, with a large leaf, soft and velvety to touch; No. 279, with bright, white stems, superior to the well-known *R. biflorus*; and No. 282, which at the time of writing is covered with bright, scarlet, somewhat acid fruits.

Leaving the brambles, there are several new and promising cotoneasters, such as *C. applanata*, free growing and very graceful in form, and *C. humifusa*, dwarf and quite prostrate, which last should make a delightful addition to our rockeries. A new and very distinct *Liquidambar* deserves honourable mention, as does also *Cercis racemosa*, which is said to be the best Judas tree in existence. We have some 20 or 30 new vines which show great variety of

foliage, and are for the most part putting on a fine autumn colour. There are, too, many Ribes, several Hydrangeas, one of which is said to be the finest in China, a new Forsythia with very dark stems, and a new Styrax which is said to bear freely flowers of a pearly white. None of the roses have yet flowered with us, but they seem mostly to belong to the *Banksii* and *Muschata* class. Of Buddleas there are several very fine forms of *B. variabilis* quite equal to the one which Messrs. Veitch call *B. V. Magnifica*, also *B. Nivea*, so called from its white stems, and one or two others. Many Clematis and Lonicera have germinated and grown, as is their wont, with great rapidity; but for fear of taking up too much of your valuable space I will only speak of *C. Pratti*, with red brown foliage and yellow flowers, and *C. souleana*, which is after the fashion of, but a great improvement on, our old friend *C. montana*. The climbing Loniceras have not yet flowered, but *L. Maacki* makes a vigorous bush with showy white blooms.

There is too a goodly assortment of Spiraeas, mostly of the *S. canescens* type; *S. Veitchii* is said to be the best of these novelties. *Actinidia Chinensis*, of which there has been a good deal of talk lately in the English gardening papers, makes a handsome creeper, the young tendrils being of a rich red colour, but the flower is insignificant, and I doubt its producing the edible gooseberry-like fruit in this country unless in highly favoured situations. An entirely new genus is represented by *Sinowilsonia*, which is botanically allied to the *Hamelis* family among the viburnums, *V. Sphytidophyllum* (wrinkled-leaved), so fine in fruit and with such showy foliage, which in the distance looks like some of the Sikkim rhododendrons, is probably known to some of your readers, as it has been sent out by Veitch for some little time now.

V. coriaceum is, however, quite a novelty, and is lovely in flower, evergreen, and as hardy as a dock. It has germinated very freely and grown vigorously, and should prove a great acquisition. *Stranvassia undulata* is a procumbent plant bearing fine orange-coloured fruits. The time has not yet come to describe the various new forms of *Pyrus* and *Cerasus*, and the Berberis also are mostly too small to show their true character, but there is one which looks like being a bolder and handsomer form of *B. Knightii*.

Liriodendron Chinense is growing well, and

though in a quite young state, as we have it, it is not very distinct from our old acquaintance *L. tulipiferum*, yet I have seen an older plant, one of Wilson's earlier introductions, at Messrs. Veitch's Combe Wood nursery, which makes already a most striking tree, the leaf being of the same quaint shape, but much darker in colour, and about twice the size of those borne by its better known relative. A new *Piptanthus* is said to be both much harder and finer than the false laburnum *P. Nepalensis*, which in this part of the country can only be grown on a wall; and there is too an *Evodiu* which Mr. Wilson assures me will make a handsome tree well worth growing. Of the Sumachs there are several unnamed species, as also *Rhus sylvestris*, and *R. vernicifera* (the Lacquer Sumach) which comes from a much higher altitude than the former, which was introduced some years ago from Japan, and which could not stand our Hertfordshire frosts. *Ailanthus Vilmoriniana*, with its spiny stems, has a very distinct appearance from the common type.

I could go on describing new plants till I was tired of writing, and your subscribers of reading, such as *Pistacia*, *Tupiscia*, *Polythyrus*; novel species of *Diervilla*, *Stachyurus*, *Euptelea*, *Pavlovenia*, *Catalpa*, *Morus*, *Coriaria*, &c., but I have written quite enough to show that we are indebted to the energy, industry and capacity of Mr. Wilson, and to the enterprise of those who despatched him on his expedition, for probably the largest addition to tree and shrub life capable of existing in this country, which has ever been made at one time, and which in a few years should effect quite a revolution in the appearance of our shrubberies and ornamental grounds.



Rose Mrs. John Bateman.

ALL readers of this month's number, and especially those whose introduction to rose-growing and showing is young, are invited to closely study the picture on the opposite page. I have often wanted to show the "young idea" what a rose should look like when at its best, and here, at last, I have dropped on a perfect example. This rose was raised by Alex. Dickson & Sons a few years back, and has not received all the support it deserves, probably because other roses of the year were more sought after. Yet Mrs. J. Bateman is a fine rose, and ought to be more grown. The photograph, which is perfect, was kindly lent me by P. Murrell, Esq., whose name is well known to all rosarians.

O'D. B.

Roses.

By O'DONEL BROWNE, M.D.

PLANTING operations are at their height now, and advice on this, the most important part of a rosarian's duty, may be again given. Ground should have been trenched and well manured last month to be ready (as it is a good plan to allow your beds to settle down ere planting begins) for a favourable chance to get the newly arrived trees into their permanent quarters. Should the trenching, however, have been put off, my advice to all is not to delay any longer, but to push on with the work at full speed. See to your drainage, break up the soil well at the bottom of the bed with a pickaxe or fork, and try to keep the soil that is in the second spit there and not bring it to the top. Mix a plentiful supply of well-decayed farm manure with this second spit and only very little in the top spit. Nothing can be more injurious to a rose than close contact of its roots with manure. In planting wait until the soil is not sticky—soil that will not bind or stick to the spade is in the right condition. Carefully heel your plants in near their planting quarters, so that when planting they may be at hand. When about to plant take out holes about one foot square and four inches deep. Then take the plant in your left hand, and having shortened any long shoots spread out the roots like a lady's fan, removing any damaged by a sharp cut of the knife. Make a hole sufficiently deep so that the junction of the rose

and roots is about one inch under the soil when planting is completed. Hold the plant as I say, and spread out the roots with the fingers of both hands and get an assistant to shake some of the finest and driest soil on to the roots. If two roots have to cross place soil between both, and then carefully give the plant a few little shakes to allow the crumbs of soil to work in between the roots. Now, tread this soil moderately firm, still holding the plant with the left hand to prevent it sinking too deep under the pressure.

Fill in a little more soil, and pass on to the next, and finally settle the soil nicely on the bed when all is done. There is no necessity to put straw and manure on the beds, although it is often advised. Let me once more repeat the warning which I have often given—enter every rose's name in a note-book for future reference, or if you can manage it, enter them in your head. After high winds look and see that none of your trees are wobbling in the ground; roots will not form if the tree is not firm, but suckers will. Leave the surface soil fairly rough; frost will help you to spring. Roses being moved from one place of the garden to another should be moved with a ball, and the foliage should get a few syringings and the roots a good drenching. Now, when the planting is over you may turn your attention to the planting of briars in their quarters for budding next year. Get all the briars you can, and treat them as rose plants.



ROSE MRS. JOHN BATEMAN

From a photograph kindly taken by Mr. P. Murrell, of The Nurseries, Shrewsbury. It is a Hybrid Tea, of a deep china rose colour, with yellow at the base of the petals.

The Lilacs (*Syringa*).

By J. W. BESANT.

THESE are few more popular and beautiful shrubs than the common lilac (*Syringa vulgaris*) and its many lovely varieties of various colours. In most gardens, large and small, specimens of lilac will be found annually making a fine display, and if well treated and cared for they will endure for many years.

A rich, loamy soil suits these plants admirably, and an annual dressing of decayed manure is very beneficial to established specimens. To ensure shapely specimens and to induce the formation of flowering shoots, pruning must be done; this should take the form of thinning out the shoots after flowering, and the same time is suitable for applying the mulching mentioned above.

In addition to the common lilac, the Persian and Rouen lilacs are occasionally met with in gardens, though not so frequently as they might be considering their wonderful floriferousness and quiet beauty.

The various species of *Syringa* should not be overlooked by those in search of good shrubs during the present planting season. The following are worthy of notice:—

Syringa chinensis (the Rouen lilac).—This forms a fairly large bush, with rather slender branches bearing small ovate leaves, and producing numerous clusters of lilac or violet-coloured blossoms.

S. Emodi.—This is a Himalayan species, and a useful plant for large shrubberies. The flowers are less important than those of some other species, being of a pale, undecided hue, but the large, handsome leaves and the sturdy, vigorous habit of the plant make it well worthy of inclusion. It will reach a height of eight feet. There is also a variegated form.

S. japonica.—This Japanese species is a really good shrub or often a small tree. It flowers somewhat later than most lilacs, about the beginning of July. Flowers creamy white, borne in large panicles, while the ovate leaves are relatively large and handsome.

S. Josikata, from Transylvania, is another strong-growing species, reaching a height of eight or ten feet. The flowers are not very showy, but the leaves are fairly large, broadly lanceolate, and whitish on the under surface.

S. oblata, a Chinese species, is not much met with outside botanic gardens, but is quite worthy of notice. The leaves are comparatively large, roundish in outline, and somewhat thicker in texture than those of the common lilac. The flowers are of a purplish shade, and very freely produced.

S. persica, though a native of Afghanistan, is commonly known as the Persian lilac. This is a fairly common species, and should be in every garden. In habit it resembles the Rouen lilac, but has smaller leaves and bluish-purple flowers; the white variety is very beautiful.

S. vulgaris, the common lilac, is a native of Eastern Europe, and calls for no description here. The white variety is extremely beautiful, while a host of beautiful, single and double forms are obtainable from most nurseries.

Other species in cultivation at Glasnevin are *S. giraldi*, from N. China, described as being the earliest to flower, and bearing long panicles of pale lilac-blossoms; *S. villosa*, from N. China, with bluish-purple flowers and ovate leaves, and *Syringa pekinensis*, resembling a privet in habit, but the flowers of which I am unacquainted with.



A FRUIT grower in one of the provinces of France, having a plantation of plum trees that failed to produce fruit owing to the destruction of the flowers by early May frosts, tried the experiment of retarding the flowering period by etherizing the roots. The method adopted was to dig a hole in the soil sixteen inches deep, pour in ether, and then fill up the hole. The effect of this treatment was to retard root action and delay for a fortnight the opening of the flower buds, and so enable them to escape the killing influence of the frosts.

THE modern system of clean cultivation in fruit plots may not be the best under all conditions of soil and climate. In soil having a low percentage of organic matter or humus, and especially in hot and dry situations, the practice referred to will result in a gradual lowering of the already too low percentage of organic matter to the detriment of growth. This result has at least been observed in fruit plantations in Colorado, and the device of growing crops of shade plants, to be ultimately ploughed or dug in, has been resorted to in order to restore organic matter to the depleted soils. Leguminous crops such as clovers and vetches are the kinds selected for this purpose.

LOGANBERRIES make delicious jelly and jam. They are strong growers and heavy bearers. They are planted 5 or 6 feet apart, and treated like raspberries.

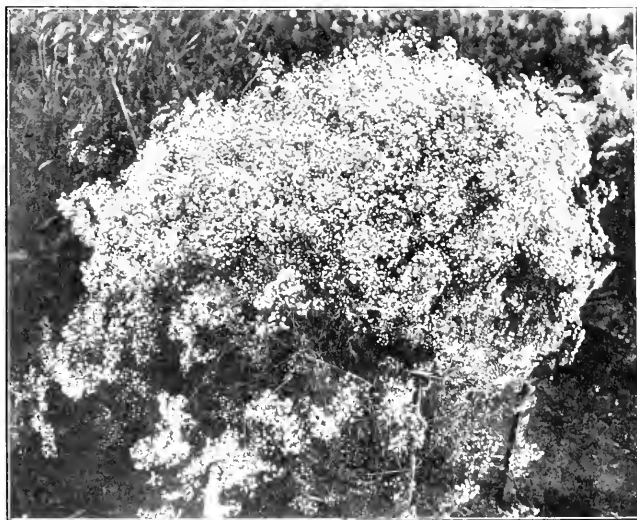
Notes from Glasnevin.

By R. M. POLLOCK.

THE single form of *Gypsophila paniculata* is so well known and appreciated for all decorative purposes that it needs no further praise here, but the double variety is less known and is worthy of notice. It is certainly an improvement on the original variety. When cut it lasts considerably longer in water than the single, and is a purer white. Its history

Greenhouse Gardening.

A COOL greenhouse, be it ever so small, affords a fine opportunity to indulge in amateur gardening, especially where, as in the suburbs of towns, ordinary outdoor gardening is limited owing to restrictions of space. A little lean-to erection built against the wall of the dwelling-house need not be an expensive affair, and if the precaution be taken to give it a south or west aspect quite a number of very interesting plants



GYPSOPHILA PANICULATA FL. PL.

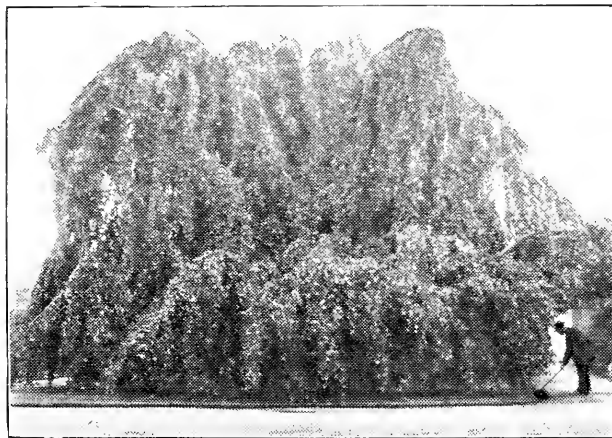
is interesting. It is said to have been found growing among a bed of seedlings of *G. paniculata* in the nursery of D. S. Thompson & Sons, Wimbledon. The accompanying photograph shows a fine plant of this double variety growing in T. Smith's nurseries, Newry.

COLCHICUM SPECIOSUM ALBUM.—This is a very beautiful variety of one of the "Meadow Saffrons" *Colchicum speciosum*. The flowers are of good, globular shape, of fine substance, and pure white. The flower itself stands some seven inches high, with a pale-green "stem." Although these "Meadow Saffrons" are easily soiled and broken by the wind and rain during the months when they bloom, this variety seems to stand the uncongenial weather better than many of the same genus. One bulb of *Colchicum speciosum album* was purchased in 1905 from Messrs. Backhouse & Co. for five guineas, and even still it is by no means cheap. *Colchicum speciosum rubrum* is another variety worth cultivating, and is a strong grower. This variety is an excellent subject for indoor decoration, and is of a very lovely colour in artificial light.

may be grown in it with great success. No attempt should be made to grow other than hardy plants—that is to say, plants that would thrive in the open garden. Many of these are very suitable for indoor culture, and their natural beauty of flower is considerably enhanced by the protection afforded against cold winds and heavy heating rains. The chief thing to be guarded against is "coddling" the plants must be given a continuous supply of buoyant air. During the summer the ventilators must never be closed day or night except under very exceptional circumstances. In spring and autumn the ventilators may be closed down at night but kept open during the day, while in very severe spells of winter weather they may be kept closed all the time. In the choice of plants there is a very wide range of suitable subjects, such as spring flowering bulbs, alpines, lilies, carnations, roses, and many others. The plants are grown, of course, in pots, but some of the dwarfier kinds will look better, and perhaps thrive better, in pans, while others again may be grown in fancy bowls embedded in damp fibre.

Arbor Day.

THE Irish Forestry Society at a meeting held last month in the Mansion House, Dublin, resolved that Monday, the 1st of November, be fixed upon as the commencement of "Arbor Day" week for Ireland, and that the Irish Forestry Society do what it can to promote its celebrations. Mr. O. H. Braddell presided. There was a good attendance, and several speakers addressed the meeting, including Mr. F. W. Moore, Mr. James Adams, M.A., Mr. Gray, and Mr. O'Nowlan, M.A. During the course of his address



WEeping BEECH AT STRADBROCK HALL, BLACKROCK, CO. DUBLIN.

The fine specimen weeping beech, *Fagus sylvatica pendula*, near the entrance to the pleasure grounds of Stradbrook Hall, Blackrock, Co. Dublin, the residence of Richard Pim, Esq., was, we are informed by Mr. Pim, planted well on for a hundred years ago by Sir William, then Ulster King at Arms. It is tall for a weeper, being 43 feet high, and the whole tree has a diametrical branch-spread of 79 feet. Once entering the perfect canopy of foliage the somewhat peculiar growth of the chief limbs is remarkable, one in particular sweeping out and around in semicircular form for a length of 50 feet.

Mr. Moore drew attention to the present alarming rate of denudation of timber throughout the country, and of the "shameful" absence of systematic replanting, and strongly urged the necessity of intelligently directed reafforestation. Forestry, the speaker declared, while it called for assistance, enthusiasm, and encouragement, demanded above all education—education as to what forestry really meant to the material prosperity of the country, and in this relation we must begin with the child, and he recognised in the Arbor Day movement a great educational instrument by which children would be taught to respect trees as living things, and be impressed with the wickedness of hacking the bark, breaking the branches, and otherwise mutilating them. At present little or no respect was paid to trees by young people, unfortunately there was no public opinion demanding their protection in open spaces in Ireland.

Proceeding, the speaker dwelt upon the importance of selecting suitable trees for Arbor Day planting, mentioning sycamore and ash as vigorous growers, and strongly recommending the common hawthorn and apple or pear for town planting. In conclusion, Mr. Moore pointed out that one of the main objects of the Irish Forestry Society was to inculcate in all Irishmen the necessity of meeting the waste of timber that was taking place at present, and to do their utmost to awaken the public to a sense of the criminality of ruthlessly and unnecessarily destroying trees, and to make the people replace the timber they cut down. Furthermore, the people must throughout all their labours learn

to rely more on themselves and on their own initiative and independence, and less upon "spoon-feeding" if they were to succeed in making their country a verdant land, and the growing of timber a commercial success as a branch of agriculture. Mr. James Adams, M.A., urged the importance of making a study of the particular kinds of trees that formed the ancient forests of Ireland, remarking upon the prevalence of Scotch pine (*Pinus sylvestris*) throughout our peat bogs (the speaker estimated the age of one of these in an Antrim bog at 250 years). He believed that both Scotch pine and birch would readily grow on slightly drained bog land. The speaker also referred to the fact that forests used to exist in situations at present denuded of trees, and instanced the case of the Wicklow mountains, that formerly supported a crop of timber up to an altitude of 1,700 to 2,000 feet, while at present there was no tree growth beyond the 1,200 feet limit, and again, along the wind-swept western sea-board, now bare of trees, was at one time wooded right up to the edge of the Atlantic. Mr. O'Nowlan, following up the remarks of Mr. Adams, stated that the chief native trees of Ireland were the ash, Scotch pine, oak, yew, holly, hazel, alder, elder, and juniper, but declared that there was scarcely a tree of the temperate region of the earth that would not flourish in the soil and climate of Ireland.

Before the conclusion of the meeting it was agreed that Mr. Moore's speech should be printed as a "leaflet," and circulated as widely as possible by the Society. [A copy of the speech from a verbatim report published in *The Farmers' Gazette* of October 16 may be had on application to THE SECRETARY, Irish Forestry Society, 12 College Green, Dublin.]



MISS DOYNE'S PRIMULAS.

A happy colour. *Primula capitata* in Miss Roberta M. Doyne's garden, Seaford, Gorey, Wexford

Current Topics.

By E. KNOWLDIN, F.R.H.S.

SAID the old huntsman to the members of the famous Jorrockses when mistaking the pantry door for the legitimate exit, in exploring the weather, " . . . as dark as pitch and a great smell of cheese." Our current topics as we write are as strongly impregnated with a great smell of apples blended with the murky odours of Anna Liffey, and the talk is apples, simply apples. What a delightful variety there is in gardening! No sooner were we sickening of the gardeners' greeting, "How's the Mums?" than we find the apple flavouring our conversation to the extent of the garlic in Spanish cookery, for there is no getting away from it as far as we can see, nor any desire to. But it is an old story, this of the apple, as old as Adam, and perhaps older; for is it not written that in prehistoric times, according to the evidence unearthed in the lake dwellings of Central Europe, our primitive ancestors knew what an apple was? Of course some critic may tell us that these were merely crabs, but, dear critic, would you, seriously, have us believe that our first mother could, or would, have tempted "himself" with a common vinegary crab? Perish the thought; and the evolution of the apple seems lost in the gloom of ages, so we needn't bother about it. Coming down to more modern times we, who flatter ourselves with this filip to fruit culture—this new discovery of the suitability of our fine climate and wretched weather to apple growing—what do we find? Is it a new cult for old Ireland? Or is it merely a revival? The latter we suspect when finding that considerably over a hundred years ago one Doctor King constrained to sing:—

"Mountown! thou sweet retreat from Dublin cares,
Be famous for thy apples and thy pears,
Mountown! the muses' most delicious theme,
Oh! may thy Codlins ever swim in cream."

Even further back Dublin Pippins were paraded in poetry with— No! Put up your blue pencil, Mon Editeur, we spare *sub rosa* your feelings, our experience of editors being (strictly *sub rosa*) that they will rarely rise with you aeroplanatically into the realms of poetry—alleged poetry.

"The worst of progress and all that sort of thing,"

says the *Daily Sketch*, "is to make life so complex. . . The latest terror comes from the Royal Horticultural Society in the shape of a chart of colours. . . . It is a terrible affair, for it contains 1,450 different colours. . . . Some of us by means of great exertion and constant reference to the rainbow can just manage to remember the names of seven colours. Some few there are who carry the thing on a little further and learn off by heart the names printed above the little pans in the colour boxes. . . ." And so on, and so on. Well, we have seen the colour chart for which, by the way, the Royal Horticultural Society is only responsible for publication to its members. Its descriptive matter is in French, had it been in Irish the possibility (we don't say the probability) is we could have more pleasantly parted with 15s. and taken it to our heart; as it is complications are added to complexity. But what a grand thing it should be for the pea-men—the sweet ones of course—in order to confound those Nationalists (the N. S. P.) in their "too much alike" business, bad cess to 'em, could not even leave us our Dodwell F. Browne, but must needs bracket it with half a dozen others. Bracket 'em together—altogether, boys! That's where the colour chart comes in—to the extent, at least, of 1,450 colours. Surely those S. P. Nationalists will now take occasion by the hand and make the bounds of freedom wider yet. "Too much alike!" Don't be talking! No more disqualifying tricks with the judges; just give each a copy of the colour chart, and—there you are.

Arbor Week should be a great day for Ireland. And how much better to make a week of it than one pultry little day, which may turn out wet and mucky to boot, and anything but nice for man or tree. Surely, now, we may expect something more than last year's achievement, when a few solitary somethings were stuck in somewhere (about the sloblands of Clontarf, was it?) by somebodies, and glorified with names which—no matter, it was to the best of our recollection of the Press reports of that date, a tree-mendous operation necessitating speeching, refreshments and other "allegations," including a few trees. We believe there is no truth in the report that every spade in Dublin has been bought up against this auspicious week. Better weather and more power to it, even to the extent of a month—Arbor Month—in twelve months time.

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The Fruit Show at Ballsbridge.

THE fruit show recently held at Ballsbridge has afforded another clear demonstration of the fact that the soil and climate of Ireland, generally speaking, are favourable to the production of apples of the very highest quality.

Such a show as this conveys different impressions to different minds.

The townsman who cannot grow fruit for himself is attracted by the bright and appetizing display, and asks himself where he can obtain apples like these for his own table. He may enquire for them at the shops, but more than likely, under present conditions, he will be unsuccessful in his quest, and will have to content himself with American fruit, beautiful in appearance, but fibrous to the taste.

The man who is not already a fruit-grower, but who has land of his own, is encouraged to plant some fruit trees thereon, and can select from the array of varieties before him the names of the best fruit.

The fruit-grower recognises many of the varieties as old friends, but is enabled to compare the dishes with those he himself can produce. Even if he is not a competitor he is stimulated to greater exertions by seeing what his fellow-growers can do, and he has an opportunity of inspecting new varieties which, perhaps, he has read of, but has not seen before.

It is to be remembered by the uninitiated that fruit of high quality cannot be produced by merely planting the tree and leaving it to itself. Thorough cultivation, careful pruning, and judicious thinning of the fruit are essential to the production of first grade apples.

A noticeable feature of the exhibition was the superiority of the Irish produce over that exhibited by English growers. Two tables of English fruit, one from the east and the other from the west of that country, were in the hall, and the Irish fruit had a distinct advantage over them, both in colour and in form. Of course due allowance must be made for the fact that

the past summer was a wet one in England. Yet, notwithstanding this, the comparison cannot but be an encouragement to Irish growers.

All the standard varieties of apples were well represented both in the separate classes and in the collections. It was interesting to note the difference in colour between dishes of the same variety. Allington, Lane's Prince Albert, and Cox's Orange Pippin were remarkable in this respect. Colour is largely influenced by exposure to light, but is also affected by the nature of the soil and the feeding which the tree gets. Apples grown in the counties of Kilkenny and Clare appear to take on a peculiarly good colour. Needless to say a good colour greatly enhances the market value of the fruit.

With regard to varieties, intending planters should be guarded against purchasing a large number of trees of a particular variety merely because it looked handsome on the show table. The constitution of the tree and its cropping qualities should be carefully enquired into before planting any quantity of it. For instance, Peasgood Nonsuch, which looked so splendid at the show, will not succeed everywhere, but requires a warm, well-drained soil for its cultivation.

The show furnished many examples of the great influence of grading on the appearance of a sample of fruit. It was easy to see how one inferior fruit could spoil the effect of a dish or of a collection. Too much importance cannot be attached to grading in the marketing of fruit. The first prize packages were models of how fruit ought to be sent to market—perfectly graded and packed in neat lines, with just sufficient packing material (paper shavings) to protect them from rubbing against the sides of the boxes, the boxes themselves (bushel and half bushel size) being light but strong, and provided with ventilating holes. The box of Cox's would easily fetch 2d. per fruit in the London market, the Bramley's 1½d., and the Peasgood 2½d.

How is it that in spite of a show, such as this, first quality Irish fruit is difficult to obtain in the shops? Simply because fruit of the best varieties is not grown in sufficient quantity or marketed in the best manner to secure the steady influx of high-grade fruit to the retailer. There is a ready demand for such fruit both in this country and across the Channel. The fruit show should encourage Irishmen to grow fruit which will supply that demand.

G. O. SHERRARD.

Notes.

CRAB APPLES.—We have at different times in these pages drawn the attention of our readers to the beauty and to the usefulness of some of the better sorts of crab apple trees as decorative subjects in gardens and grounds. We note that a correspondent to *Country Life* gives great praise to the dessert qualities of such kinds as John Downie and the crimson Siberian crab, stating that the latter is "of far finer flavour than any apple I know of; indeed they are champagne only solid." In our own experience we find that these particular apples when ripe are in fact the first choice of boys—and we imagine they are not bad judges of this class of fruit.

MESRS. MAUNSEL have in the press, and will shortly issue, a volume containing the collected works of the late Miss Charlotte Grace O'Brien. It will contain her poems and scattered papers, including the series of articles on "The Making of our Home" that appeared in these pages during the first half of the present year. It is edited by Mr. Stephen Gwynn, who contributes an introduction that will be read with much interest by the many admirers of the deceased authoress.

WE have received from Mr. Wm. Baylor Hartland a box containing samples of the fruit of a number of our native apples—that is, varieties of apples that have been in cultivation in Ireland for a very great number of years. Amongst them is a batch of the "Ard-earn Russel" a nicely shaped fruit of the Pearmain type, of medium size, and handsomely coloured (rich orange or golden-brown, shaded with bright red on the sun-exposed side). It is a dessert apple, said to keep up till April. It is firm, juicy, sweet, and deliciously flavoured. We have ourselves ordered a few trees to give it a trial, and recommend others to do the same. If it bears well it ought to be good for marketing purposes.

AT the recent meeting of the British Association in Canada, Professor Somerville, in an introductory speech opening the Forestry section, drew attention to the fact that the present consumption of timber was rising faster than the supply, the growing scarcity of timber being clearly reflected in the rising prices. During the past 22 years nine out of thirty-two varieties enquired into had risen more than 100 per cent. in price, and only two had risen less than 25 per cent. It is, therefore, to the interest of this country to take immediate steps to prevent waste, and to replant on such land as can be devoted to forestry purposes.

AS bearing upon the question of the stimulating influence of electricity upon plant growth, it has been found that within the Arctic circle there is a distinct periodicity of rapid and slow growth in the thickening of tree trunks (firs). The distinctive growth periods coincide, it seems, with the periods of sun spots and auroras, or, in other words, with high and low atmospheric electrical tension.

It is generally supposed that the root system of a tree extends about just as far as the spread of its branches. We note, however, in the report of certain orchard ex-

periments an incidental reference to the length of apple tree roots, in which it is stated that the roots in some cases reached three times as far laterally as the branches. If this be true (and perhaps some reader will investigate the matter and report to us), it would suggest to cultivators a wider spread of fertilizers and mulches than is generally thought to be needful in orchard management.

THE date of the next show of the recently established National Vegetable Society has been fixed provisionally for September 20th of next year. Non-members will be allowed to compete on payment of a fixed fee. It is expected that the society will be in a position to offer a large number of valuable prizes for competition.

A FAR-FAMED and much-honoured Scottish gardener—Mr. David Thompson, V.M.H.—has died during the past month. Mr. Thompson was not only a great gardener, but a prolific writer on horticultural subjects. He was Editor of the *Scottish Gardener*, and a recipient of the Neil prize, the Veitch Memorial Medal, and the Victoria Medal of Honour of the Royal Horticultural Society of England. He was 80 years old.

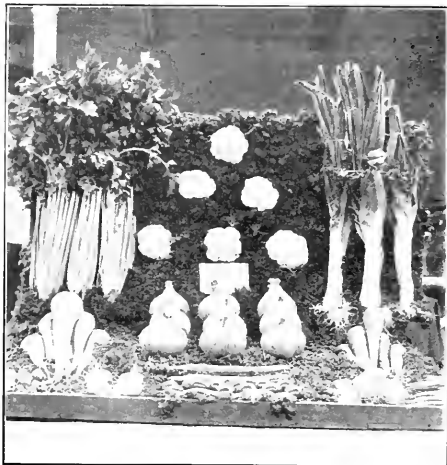
MR. C. E. LAMBRIN of "Walford," Shrewsbury Road, Dublin, writes to us as follows:—"It may be interesting to your readers to know that in my garden this summer I have had quite a large crop of peaches on Standard trees in the open. On four trees, planted I should say five or six years, I gathered some 250 peaches, all of which ripened, and are of a good size. I sent specimens of them to F. W. Moore, Esq., Royal Botanic Gardens, who pronounced them excellent. The trees have never been pruned or even manured, and, strange, are facing north. Up to now I looked on them as merely ornamental, not having borne any fruit previously."

THE Arbor Day ceremony of the Irish Forestry Society will take place at Bray, on Saturday, the 6th instant. This date has been fixed to suit the convenience of His Excellency the Lord Lieutenant, who has expressed his cordial sympathy with the movement, and his desire to be present at the ceremony. It is also hoped that Her Excellency the Countess of Aberdeen will be present. The hour of the ceremony has been fixed at 3.30 p.m.

THE honorary degree of M.A. has been conferred by the Royal University of Ireland upon Mr. F. W. Moore, Director of the Royal Botanic Gardens, Glasnevin.

THE Belfast Chrysanthemum Show will be held on Tuesday and Wednesday, the 9th and 10th inst.

VISITORS at a recent exhibition of the Royal Horticultural Society of England were much impressed by the beauty of the exhibits of the early-flowering or border chrysanthemums that form such imposing patches of colour in the flower garden during the later months of the year. It is a pleasing sign of the change of taste in the requirements of a decorative plant when these single and relatively small-flowered chrysanthemums attract so much public admiration.



SIR R. PALMER'S PRIZE EXHIBIT.

Royal Horticultural Society's Winter Show.

THIS show was held in the premises of the Royal Dublin Society at Ballsbridge, on Wednesday and Thursday, 20th and 21st October, 1909. Fruit, cut flowers, and vegetables were well represented, but there were no pot plants. Apples were the chief feature in the show, and though probably not so many as last year, I think they were of better quality, there being very few even medium class fruit.

There were very few entries from the Kilkenny district this year, most of their best fruit having been previously shown at Waterford.

The exhibits go to prove that good, high-class fruit can be produced in this country, and that they compare very favourably with the best hardy fruits grown in England this year.

Some very high-class fruit was exhibited by Lady Fitzgerald (gardener, Mr. Barker), Mr. Scott and Mr. Coffey from Co. Clare, and from Cork by Mr. Spettiswood Bowles and Mr. Hennerty. County Dublin growers were well to the fore, including Mr. J. Jamieson (gardener, Mr. McKellar), Mrs. Goodbody (gardener, Mr. Davis), Captain Kiall and Mr. E. Bewley. Mr. Jamieson was first for the decorated table of fruit, Mr. Hennerty a good second. The tables were a feature in the show, and contained some very good apples.

There was good competition in the fruit packed for market classes, the packages of Mr. Scott, Newmarket-on-Fergus, taking the four first prizes with excellent fruit, very well packed, the half bushel of Cox's Orange Pippin being extra well done. Good fruit packed

like this will command a good sale in almost any market in the country.

Pears, though not numerous, were of very good quality, especially those of Pitmaston Duchess, excellent fruits being staged, and gave the judges some work to decide which was the best dish, the first prize going to the Rev. R. Bradshaw, with Lord Plunkett second. The first prize dish of Doyenne du Comice, shown by the Earl of Meath, contained excellent fruits, Mr. D'Olier being second. Some of the dishes of pears contained mixed fruits.

Though the vegetables in general were not so numerous as might be expected, there was very strong competition in some of the classes, especially the onions, carrots, and parsnips, which were won by Sir R. Palmer (gardener, Mr. Brennan), and tomatoes won by Mr. Hennerty, Cork, Mr. McIntosh being second. Extra good celery was shown by Mr. N. Hone, who was first for both red and white, Sir R. Palmer being second. The first prize collection of twelve vegetables of Sir R. Palmer was a very good exhibit, and contained good onions, carrots and parsnips, Mr. Hone being second. The first

prize for a collection of six vegetables was won by Mr. Brown, Naas, Mr. Gleeson being second. Though the first prize dish of cabbages of Mrs. Meade Coffey's was very good, the rest were a very coarse lot. Beet was very good, Mr. N. Hone taking first prize and Sir R. Palmer second. Onions were extra good, Sir R. Palmer being first with very fine specimens, whilst the Marquis of Ormonde (gardener, Mr. Sutton) was second with almost as good bulbs. The prize winners in the cottagers' section were Mr. W. Ryan and Mr. R. Staunton, Foxford, Co. Mayo. These classes could with advantage be extended, and it would be advisable to try and procure cottagers nearer home to take an interest in growing and exhibiting vegetables by the extension of classes for cottagers.

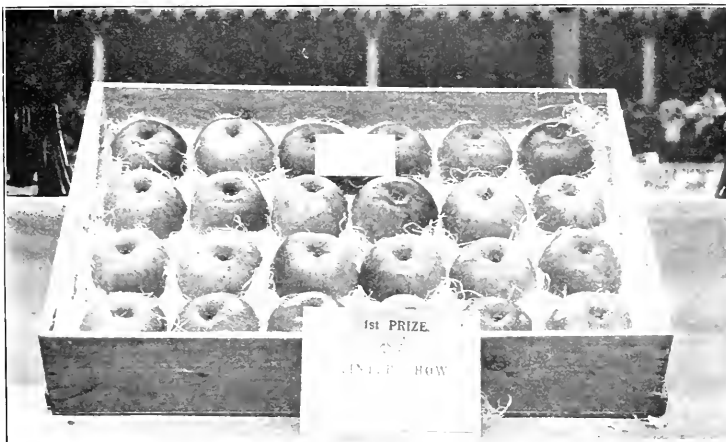
Chrysanthemums made a very nice display, especially the early flowering varieties. Some very fine, large blooms were exhibited, especially in the stand for twenty-four blooms, and in the vase for six whites, Mr. J. Jamieson taking all the first prizes in the large bloom classes. There was very good competition in the early flowering section, the challenge cup for twelve vases being won by Mrs. Meade Coffey, Mr. Jamieson being second. Mr. Ross won first prize for six vases of early flowering ones, with Mr. Maunsell second. For the vase of singles arranged for effect, Miss J. M. Field was awarded first and Mr. Clements second prize.

The class, which is a new one, for twelve vases of hardy berried plants, with prizes presented by Lady Albrede Bourke, was won by Mr. E. Lee, Capt. Kiall being second.

It was very gratifying to see the nurserymen taking more interest in this show.

The stands of fruits, flowers and plants of Messrs. Drummond & Sons, and of fruits, plants and floral designs of Messrs. C. Ramsey & Son were very good, and well deserve the gold medal awarded to each of them.

Silver medals were awarded to Mr. Jones, Gowran, Kilkenny, for shrubs; Messrs. Edmondson, Dame Street,



AN OBJECT LESSON IN FRUIT PACKING
(Mr. Scott's Exhibit.)

Dublin, for fruit, and Messrs. Browett & Sons, Kingstown, for plants.

A silver medal was awarded to Her Excellency the Countess of Aberdeen for a table of fruit, flowers and plants, the black Alicanti grapes being very good, as also were the plants of *Clerodendron fallax*.

Messrs. A. Dickson & Son, Dawson Street, Dublin, were awarded first prize and the Society's gold medal for the best general exhibit of hardy fruit. It contained some very fine quality fruit, and was beautifully

arranged. Messrs. W. Seabrook and Sons, Chelmsford, Essex, staged a good table of fruit, for which he was very highly commended. Mr. Seabrook's fruit is generally of a very high quality, large, and of good colour, but this year's samples lack both the size and colour of the Irish fruit.

The Irish Packing Co., Carrick-on-Suir, were very highly commended for an exhibit of non-returnable chip baskets of various sizes.

Mr. Geo. Perry & Son, Camden Row, Dublin, were



A HANDSOME TRADE EXHIBIT.

highly commended for non-returnable fruit boxes and crates.

Mr. Watson, chemist, South Great George's Street, Dublin, had a very fine stand of spraying compounds and insecticides.

Lady Nutting exhibited a very fine basket of fruits of Ecklinville Seedling apple.

Hon. Mrs. Pery was commended for plant protectors. They have many points in their favour, but I fear they are not so good as the cloches in use in the Evesham district.

Mr. Jones, Gowran, was awarded the Council's Certificate of Merit for a new seedling dessert apple of medium size, good shape and colour, and of very good flavour.

The following acted as judges:—Classes 1 to 15, chrysanthemums and cut flowers; 16 to 28, apples; 29 to 58, grapes—Messrs. Logan and Baker. Classes 29 to 52, apples—Messrs. Tyndal and Spencer. Classes 53 to 64, pears—Messrs. Moore and Bedford. Classes 65 to 71, and 93, collections of apples—Messrs. Lynas and Sayers. Classes 72 to 75, fruit packages—Mr. Fletcher. Classes 76 to 92, vegetables—Messrs. Scrimgeour and Carroll.

Messrs. Moore, Ross, Bewley, Irving, and Bedford made the awards in the trade exhibits.

W. S. IRVING.

The Sowing of Seeds.

By WILLIAM JOHNSTON, County Instructor, Longford.

PERHAPS a few hints on the above subject, although out of season, might be advantageous to the farmers and labourers for whom it is penned. I find in some cases that came under my notice the people in sowing seeds either sow them *too deep* or else *too shallow*. One instance to note. A lady gardener obtained some early peas—the Pilot—and got ground ready for same, taking good care to put in plenty of half-decayed dung in the bottom of a trench which her labouring man had prepared. After levelling the dung she broadcasted the seed as evenly as possible, and covered all to the depth of six inches. Only a few of the seeds germinated, and, of course, the merchant from whom the seed was procured had all the blame left on him for sending out old seed; no blame or fault either to the preparation of the ground, including the manuring of same, or else to the final covering of the seeds.

PREPARING GROUND FOR SOWING.—It is not only necessary to enrich the soil, the principal aim of cultural preparation is to get as fine and as firm seed-bed as possible. This is the chief essential of success in the future cultivation of the crop. Not only should the seed-bed be brought to a fine tilth, and at the same time firm and level, but it also ought to be quite dry to admit of whatever tools required to bring the soil to above state without clogging or adhering to the tools used. Sowing of any seeds in a sticky, wet soil means not on ly unnecessary trouble, but also failure of the crop.

DEPTH OF SOWING THE SEED.—The depth necessary depends on the porosity of the soil and the

size of the seed, as the larger the seed the more deeply should it be covered. Above all too deep sowing ought to be avoided, as it not only retards the growth, but also assists in making whatever plants that grow become weakly and stunted. Enough soil should be placed over the seeds so as to keep them moist, as the finer and moister the soil is the shallower the seeds may be covered.

TEMPERATURE REQUIRED FOR GERMINATION.—The seeds of all hardy plants germinate readily in a temperature of from 50° to 60°, while it is necessary to have from 60° to 70°, and even above, for half-hardy varieties.

TIME FOR SOWING.—The greatest craze at the present time is to get early crops from the soil, and to succeed we must sow the seeds early. This early sowing is responsible for a great many of the losses we hear of from time to time, because the seeds are not able to germinate until the ground can be brought to a good tilth or condition, and also till there is sufficient temperature. If too early sowing is practised the seeds either decay or at the most produce only weak sickly plants.

MOISTURE REQUIRED FOR GERMINATION.—It is necessary to have a sufficient supply of moisture during germination if the crop is to be a success. When the soil is brought to a fine condition and made firm either with a small roller or else beating it with the back of a spade or shovel the seed will germinate more quickly, because the compressing of the soil enables water to rise freely from the sub-soil. Water cannot rise to the seeds so well if the soil is loose and in a lumpy state. As soon as the seedlings appear it is important to make the surface loose, for the longer the surface remains compressed the evaporation of the soil moisture will continue. A good plan to hasten on the slower germinating varieties of vegetables is to sow a few seeds of quickly-growing kinds, such as turnips, cabbage, radish, &c., to mark the rows, which will admit of earlier tillage between the lines so as to economise the soil-moisture.

QUANTITY OF SEED.—It would be better in some of the slower germinating kinds of vegetables, such as parsley, celery, parsnip, &c., to sow the seed more thickly so as to ensure the seedlings having sufficient lifting power to break the crust of soil that forms on surface from the time the seed is sown. The cost of a few extra seeds is trifling in comparison to the labour, rent, &c. This thick sowing also prevents risk of failure, and besides gives greater selection at thinning season when only the best plants should be left.

DRILLING *versus* BROADCASTING.—Sowing the seeds either in rows or drills saves time and labour during the after cultivation, as by admitting use of hoe the weeds can be easily kept in bounds, and also the surface tillage acts as a mulch to prevent the rapid evaporation of the soil-moisture; whereas in broadcasting the seed the weed must be hand-pulled, and during the growing period of the crop the surface of the soil becomes baked quite hard owing to no place being left for the after-cultivation. This state of things retards the growth of the crop and also hastens the evaporation of the moisture of the soil.

The Reader.

BULBS AND THEIR CULTIVATION. By T. W. Sanders. London: Collingridge. 2/6 net.—Bulbs as a class afford greater scope in the extent and manner of cultivation than any other group of flowering plants. They may be planted in their thousands either naturalised in grass or massed together in formal beds, or grown within the restricted confines of pots or bowls in the homes of the "masses." Everyone, therefore, who wishes to do so can grow bulbs, and those with the desire

but without the knowledge, may get all the information they require by consulting the present little volume by the Editor of *Amateur Gardening*. The book is divided into three parts, the first dealing with hardy bulbs, the second with indoor bulbs, and the third with miscellaneous information—propagation, pests, diseases, &c. The various chapters are well illustrated, and useful lists are given throughout. A most handy alphabetical list for reference is given from pages 58 to 85, in which all necessary information for intending planters is conveniently tabulated. A novel method of growing hyacinths in moss is described as follows:—"Procure ordinary moss from a damp hedge, bank or wood; tie this into a ball about eight inches or so in diameter, then arrange hyacinth bulbs all round, adding moss

to fill the spaces between the bulbs, and interlacing this with string as the work proceeds to keep the bulbs in position. When finished run a stout piece of wire through the centre, and form a loop at one end, so that the ball can be hung up in a cool, dark cellar. Before hanging up the ball dip it in water. As soon as growth has begun bring the ball to a light window and dip in water two or three times a week. In due course the bulbs will send forth spikes radiating in every direction, and you will have a distinct floral novelty. Crocuses

and tulips could be grown in a similar way, only the ball should be smaller in size." The author strongly recommends the cultivation of hardy bulbs in unheated greenhouses, and promises results that will give great satisfaction to the lover of these beautiful flowering plants. To the amateur especially this book may be warmly recommended.

THE GARDENERS' COMPANION. By Selma Randolph. London: Mills & Boon. 2s. Miss Randolph has produced a helpful little book for reference by amateurs in gardening. It deals more especially with ornamental

planting round the home, in other words, with the making of a real garden of pleasure. "Your garden," she says, "should be a little world of your own, representing your own mind and your own taste; made, according as your space and means will permit, to suit your own special requirements, and to be a delightful haven of rest at all times and seasons." The chapters bear evidence of much knowledge of, and great enthusiasm for, this aspect of gardening.



A HANDSOME ROOM DECORATION.

A group of Narcissus planted in fibre. [From *Bulbs and Their Cultivation*.]

KELWAY'S MANUAL OF HORTICULTURE. Langport: Kelway & Son. This extremely attractive publication represents the fifty-seventh edition of the well-known catalogue of Messrs. Kelway & Son. It is not only exhaustive as a catalogue, but is also full of information concerning the character and treatment of a vast number of garden plants. Herbaceous perennials,

for which this firm of nurserymen is famous, takes, of course, the largest share of its pages, but considerable space is given to bulbs, fruit trees, shrubs, greenhouse plants, and vegetables. The book consists of 142 large pages, printed on plate paper, and lavishly illustrated with photographic reproductions and special coloured plates reproduced from colour photographs taken direct from nature in the nursery grounds at Langport last year, and the whole tastefully bound in cream-white, decorated boards, lettered in gold.

The Month's Work

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society, Ball's Bridge.

WINTERING BEDDING PLANTS.—In many cases cold pits and frames are all that can be got for wintering flower garden plants. In these structures the principal object to be secured is dryness, because damp is a far greater enemy to such plants, and one more difficult to combat, than frost. On this account try and avoid sinking pits and frames below the ground level unless the drainage is good and the walls made water-tight with cement. A strong point necessary to success in wintering plants without the aid of fire heat is that of preparing them properly in autumn, and by the coolest system of propagation. Striking cuttings early and exposing them to the open air enables them to become robust and ripe, and therefore are not so susceptible of injury from cold and damp. When the plants are first put into the pits to secure them against frost, have the lights drawn off all day when the weather is dry, and no water should be allowed on the leaves; indeed the plants may be kept dry to the drooping point. This matures the growth, so that a cold, damp period has not the same chance to injure it. When severe and continuous frost prevails keep the glass covered, and be very cautious in uncovering and exposing the plants to light when a thaw comes. To uncover suddenly exposes the plants to a trying reaction, which is often injurious. It should be delayed till the temperature inside has risen above freezing a few degrees, and then only remove the covers gradually.

PERFECT FLOWERING CARNATIONS—These are sometimes termed American carnations, owing, I presume, to their being grown there more extensively than on this side of the Atlantic, and we are, moreover, indebted to our American friends for some beautiful varieties raised by them. Distinct in appearance from malmaisons, they also require special treatment to do them well, and the return in flower is certainly much more plentiful than from malmaisons. The best time to begin striking the cuttings is October and early in November. Prepare small pots, and fill with a compost of fibry loam, fresh leaf soil rubbed through a half-inch sieve, and some silver sand; add also a little lime rubble and broken crocks to keep all porous. This same mixture will apply all through the growing period. When the cuttings are being prepared, split half an inch up from the bottom of the stem and dip in silver sand to keep the cut open, as it is from there that roots are emitted. Place three cuttings in a three-inch pot, and plunge in a hot-bed till rooted. When ready for a change, pot each cutting into a four-inch pot in the mixture already noted. Pinch in the following March down to about six inches high. This will be the only stopping necessary. The final potting will be into six to eight-inch pots, and the soil for this should have the addition of a little fibry peat and broken charcoal. The loam should also have some of the finer soil left in. One great secret of success is to ram the soil hard in the pots. Soft potting is useless and spells failure. Place out in cold frames in April, and on all favourable

occasions take off the sashes and give all the sun possible. Remove the plants in August into a cool house where plenty of air can be given, and grow cool all through the flowering period. The quantity of flowers from each plant is surprising, and a strong recommendation is the delicious scent that many of the varieties possess.

BULBS.—These should all be in the flower beds this month. Surplus bulbs, chiefly narcissus, are useful planted in patches round the shrubberies, and crocuses and snowdrops in scattered groups round the margins of lawns, where mowing can be delayed till the growth is ripe; bare places under trees where grass will not grow can be planted with ivy, and bulbs may be planted among the ivy. The lovely *Chionodoxa grandiflora*, with its soft-blue and white flowers, is one of our first harbingers of spring, and is at home in the rockery and by the edgings of walks. Where flowers of narcissus are wanted early for cutting fill a number of boxes, and after they are started into a growing state bring them on in a gentle heat and keep near the glass.

TREES AND SHRUBS.—The planting of these should be pushed forward now. *Cotoneaster simonsi*, *C. horizontalis*, and the fiery thorn, *Crataegus Pyracantha Lalandi*, are splendid shrubs for making a warm glow on a wall during late autumn and winter. These, like the fruit crop, are full of berries this season, and are very ornamental. Observant gardeners will have noted during the year shrubs and trees that would suit their requirements, and now is the time, if possible, to secure them. I would here put in a plea for the planting of deciduous spring-flowering shrubs. Their delicate tints and airy appearance when in flower demand more attention. They bloom at a time when the surroundings of the spring garden are less rich than the autumn garden, and even where masses of evergreens prevail a due proportion of the freer flowering deciduous shrubs lighten up the whole in a pleasing manner. Rhododendrons can be moved and planted any time when at rest, and November is a desirable month for the work. To grow them well, there is no doubt that a peaty soil is best. Around Dublin there is too much lime in the composition of the soil, and without special preparation cannot be grown with any degree of success. All who can procure a peaty soil should, of course, do so, but rhododendrons are very often grown very well without it. In some places a light loam exists without lime, and with the addition of leaf-mould and decayed vegetable matter a suitable soil can be made. The first summer after planting mulch the surface of the soil with half-decayed litter, such as leaves, and watering must be done in dry weather. A top dressing spread over the beds of some rich compost, such as cow manure and loam in equal parts, is an excellent reviver when they show signs of weakness.

THE ROCK GARDEN.—Many who possess a rock garden think they have nothing to do at this season, and their enthusiasm only returns when flowers begin to appear in spring. Meanwhile, many choice alpine have disappeared owing either to the weather or slugs. It is well, therefore, to see if anything can be done ere it is too late. Damp is responsible for more losses than anything else. This may be caused by their own or overhanging tree leaves smothering the crowns. All loose, dead leaves should be cleared away, as they only

afford a resting place for slugs. A sheet of glass supported on a couple of bricks will throw the rain off some tender plant. A piece of slate, if kept at a fair height above the plant, will answer the same purpose. Zinc rings placed round any special subjects are also an excellent means of protection.

GENERAL WORK.—It will be difficult to keep all trim and tidy in the flower garden during this month. Falling leaves and twigs from trees give endless labour. If leaves are allowed to lie thickly and trod on in wet weather, discoloration of the grass and gravel takes place. Leaves should be collected and removed at once, and when stored dry in a shed makes the finest of all leaf soil. Lawns may have a last cut, and the mowers thereafter cleaned and packed away for the winter. Lift dahlia roots, and, before storing, stand them upside down in an airy place to drain any moisture away, and afterwards place in boxes with dry sand, and remove to a cool place where frost can be excluded. In wet weather tuberous begonias can also be turned over, the old stalks rubbed off, and the roots packed in boxes and treated similar to dahlias. Now that most of the plants are in their winter quarters it is good economy to vaporize with nicotine in anticipation of the appearance of insects. This will destroy both the green-fly and thrips, and if done once a month insects will give little trouble. At this season chrysanthemums indoors are often crowded together to make what is called a good bank of bloom, and damp settles on these flowers, and mildew follows. Split up the banks and isolate some of the best specimens. A few large palms and ferns may also be used as backgrounds, and assist to make the effect less formal.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

Laying Down of Fruit Grounds.

THE first thing to be considered by those contemplating the laying down of land for the cultivation of fruit is the suitability of soil. It is useless attempting to grow fruit profitably unless the soil is suitable, or can be rendered so without very much extra expense. Very heavy and wet soils are bad, being too cold, and damp roots favour canker, spotted fruit, and promote the growth of mosses and lichens, whereas too dry a soil is equally bad, producing little development of tree, small fruit, and in prolonged drought, possibly loss of trees. Either of these classes of soils may be modified by efficient drainage and the incorporation of material which would tend to make the soil porous, in the case of wet, heavy cold soils, and the addition of clay and mulchings of cow or pig manure in the case of light, dry, hot soils. This entails a good deal of extra expense, and if the happy medium can be had this should be availed of. Apples in particular (they are of first importance) delight in soil of a rich loamy character, which naturally drains itself; almost all fruit trees and bushes would do equally well, but for pears it may be somewhat heavier. Black currants and raspberries do well in soils of a peaty nature, and may be grown in partial shade.

Next in importance to soil is situation. An ideal position would be a gentle slope facing south, well

sheltered from north and east winds, also from western gales, which do untold havoc to apples in autumn. Shelter is of importance. During this first half of October this year hundreds of tons of our best, late apples have been rendered comparatively worthless by gales in this district, the ground beneath trees of such varieties as Bismarck, Lane's Royal Codlin, Lord Derby, &c., being covered by the fallen fruit time after time.

"A good belt of evergreen trees would make good shelter, or even a high hedge would prove helpful, but do not allow either to overshadow any portion of the grounds, or allow their roots to rob it of either food or water."

The grounds chosen, the next consideration is the preparation of the ground. If a root crop has been grown on the land this year it will greatly facilitate matters, as when cleared of the crop all that would be required would be to plough over the whole plot or field, and planting can be done at once. If in grass it must be ploughed up at once, and by the usual mode of cultivation be made fit to plant by spring, the larger trees being planted during November in prepared stations.

To dig holes two feet wide and plant a tree in each at stated distances over a grass field, and allow the rest to grow grass for a hay crop, is as bad practice as one could well imagine. Yet, how often do we see it done. No wonder trees do not thrive in such places. Many are cut down by the scythe when cutting the hay, and very many die. Maidens, as a rule, are planted in such places. I have in my mind several fields planted in this way, and know the time it takes such trees to produce anything in the way of a crop; some of them, I think, never will.

To plant apple, pear, and plum trees open a hole (in the cultivated land) wide enough to receive the roots when fully extended without coming in contact with the sides, throw out the top soil one spade deep, and well break up the bottom. In the centre of hole fix a good stout stake, fill in the soil till almost level with surrounding ground, and make firm; fill in more soil if necessary. This will depend on size of tree to be planted. In most cases an apple tree may be planted with its top roots on level with surrounding ground, and pear trees slightly below the level, but may vary according to the character of soils being dealt with, heavy soils requiring higher planting than dry ones. Place the tree in position against stake, well spread out its roots, and cover with fine soil. As filling in proceeds move the tree from side to side to help to settle the soil about its roots; surface roots to be covered with about three inches of soil, and well firmed, afterwards pricking over with point of fork, and making tree secure to stake. To prevent rubbing pass the ligature between the stake and tree before tying, afterwards mulch with manure.

Some people may naturally inquire what distance should these trees be planted apart and how to properly cultivate the intervening spaces. The distance apart to plant apples depends on the variety grown, the mode of training to be adopted, and the stock on which they are grown. For ordinary purposes it will be found that large growing varieties, trained as open bushes, planted at 21 feet apart, would be about right. Grown on Crab stock, these are the

permanent trees, and commence to bear a few years after being planted, increasing in yield as they do in size. These I much prefer to branch at from about 12 inches of the ground. To my mind they are preferable to either half or whole standards, as on them finer fruit can be produced, and are not so liable to suffer from high winds; they are also more easily got at for the purposes of pruning, fruit picking, &c. Between each of these trees a dwarf tree may be planted. These produce fruit from the first year of planting, and by the time the permanent trees commence to encroach on them will have well repaid themselves. These are generally grown on Paradise stock, but may be grown on Crab if proper kinds are selected and root-pruned regularly. The intervening spaces may be planted with gooseberries or strawberries. Gooseberry bushes at six feet apart in the row, two rows to be planted between the lines of apple trees, and one bush between the trees in line with them. If strawberries are planted they should be put in in rows two feet apart, and plants one and a half feet apart in the row. Portion of the grounds might be planted with gooseberries and portion with strawberries. Black currants may also be grown (these require plenty of feeding and cooler root run).

Before deciding on planting with small, soft fruits the market for such must be fully considered. If a local market cannot be had for these, or cheap and rapid transit to a good market, it would be useless planting with such. The ground might and would be in that case more advantageously employed in the cultivation of root crops, always bearing in mind that such crops must not interfere with the proper growth and cultivation of the fruit trees. They must not be allowed to rob them of food and, above all, moisture, and when working amongst such crops take care that the spade is kept a safe distance from the roots of the trees.

PLANTING.—All kinds of fruit trees can now be planted, this is the best month of the whole year for doing so; but never do so while the soil is wet, nor yet very frosty; better defer for a few days. In the meantime, if trees are to hand, have them heeled in carefully, keeping the roots well covered with soil. Before planting always cut away with a sharp knife any bruised or torn roots; also strong, bare roots should be well cut back. But save all fibrous ones, and be careful when treading soil during planting operations that they are not torn away.

ROOT-PRUNING.—Any trees requiring to be root-pruned should be done at once. It is not necessary to wait for foliage to fall, as the sooner they are done now the sooner they will commence to make new roots. They will heal up before hard frosts come on, and start away in spring much better than those done later. This is an operation which might with advantage be more frequently done, so many varieties of apples are condemned for the simple reason that it takes from fifteen to twenty or more years before they come into bearing condition—that is, if left to grow as they please. If these got a check, as could be given by root-pruning when about five years old, and if that did not, do one three years after, we would hear much less complaints of them not bearing.

PRUNING.—As fruit bushes and trees become bare of leaves they may be pruned. Very many may be done this month; but more of this next month, when fuller particulars will be given.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

A PATHETIC gardeners "take things easy" in November's dreariness, but carelessness or want of energy now makes the difference between mediocre gardening and gardening that is inspiring and a sure source of satisfaction and delight; for to grow a crop to perfection is the acme of pleasure, when to produce middling crops is only a compound feeling, of which disappointment is a big ingredient. Therefore to get full pleasure from gardens, the work to be done now must be enthusiastically performed. This work is principally preparatory, and like all preparatory work is of first significance; and on this account, by right, November ought to stand at the head of the garden calendar, and not second rearmost. The tillage of land, whether digging, bastard-trenching, trenching, or ridging, ought now to have vigorous attention. Liming of land, another important matter, should also be an especial job, and where necessary the work of draining should be taken in hand. It is also a good season to have walks made or repaired, and there is no better time to decide to commence gardening, as gardens if newly laid out now, or newly renovated, will be sure to give satisfaction the following season.

GENERAL WORK.—Celery ought to be all landed by this date, and if the late crops are unfinished, these should have first attention, as severe frost may now harm the exposed plants. Collect dry leaves in quantity, and store in shelter, so that there may be abundance for forcing purposes. It is nearly always impossible to have a sufficiency of these useful adjuncts when the press of the season comes on. Preparations must now be made to start rhubarb, seakale, asparagus, and French beans. Rhubarb and seakale stools may be covered in the open, taking care that the heating is not over violent to start. Roots of these crops may be also lifted, and, where such facilities are, may be placed in gentle heat, as in a mushroom house. This work must be repeated about every ten days or a fortnight, because where there is a steady demand for these crops (and where is there not?) the starting of successional batches of roots must have regular attention. (For treatment of seakale see last month.) Asparagus requires a temperature of about 70 degrees F. to start growth at this season. For forcing, strong plants four years old are usually selected. French beans may be started in pots in a warm house of not less than 60 degrees F. Take advantage of frost to have manure wheeled on plots about to be tilled, and if not already done, finish the sowing of carrots and beet. In favoured localities and in warm positions facing south a sowing of William I. improved peas may be made, and also a sowing of early Mazagan beans, but it is scarcely worth trying these unless in very sheltered sites, as the sowings of early spring are generally better and quite as early. If attempted now sow in the beginning of the month, and make rather thick sowings, the peas about four feet apart and the beans about one foot and a half or two feet. Continue to protect cauliflowers coming into heart, and to plant lettuce in warm spots and in tomato houses, &c. During severe winters parsley will require protection of some kind.

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Irish Gardening

CONTENTS

	PAGE		PAGE
New Plants from China (Illustrated)	177	Mildews of the Gooseberry and the Apple	186
The Fading Leaf	179	Current Topics	186
The Distribution of Plants in the Garden	180	The Winter Carnation in January	188
Hybridizing Narcissi	181	The Month's Work in the—	
Roses	182	Flower Garden	189
Sweet Peas for 1910	183	Fruit Grounds	190
Pure Bred Seeds	184	Vegetable Garden	191
		The Reader	192

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2	<i>Out of Print.</i>	53	The Construction of a Cowhouse
3	<i>Out of Print.</i>	54	Calf Meal.
4	<i>Out of Print.</i>	55	The Apple.
5	<i>Out of Print.</i>	56	Cultivation of the Root Crop.
6	Charlock (or Preshaugh) Spraying	57	Fruit Packing.
7	Fluke in Sheep.	58	Sprouting Seed Potatoes.
8	Timothy Meadows.	59	Seed Testing Station for Ireland.
9	The Turnip Fly.	60	The Packing of Butter.
10	Wireworms.	61	Field Experiments—Wheat.
11	Prevention of White Scour in Calves.	62	Plans for Creamery Buildings.
12	<i>Out of Print.</i>	63	"Redwater" or "Blood Murrain" in Cattle.
13	Contagious Abortion in Cattle.	64	Varieties of Fruit suitable for cultivation in Ireland.
14	Prevention of Potato Blight.	65	Forestry: The Planting of Waste Lands.
15	Fertilizers and Feeding Stuffs Act Regulations, 1907.	66	Forestry: The Proper Method of Planting Forest Trees.
16	Sheep Scab.	67	Forestry: Trees for Poles and Timber.
17	The Use and Purchase of Manures.	68	Forestry: Trees for Shelter and Ornament.
18	Swine Fever.	69	The Prevention of Tuberculosis in Cattle.
19	Early Potato Growing.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
20	Calf Rearing.	71	Forestry: The Management of Plantations.
21	Diseases of Poultry—Gapes.	72	Forestry: Felling and Selling Timber.
22	Basic Slag.	73	The Planting and Management of Hedges.
23	Dishorning Calves.	74	Some Common Parasites of the Sheep.
24	Care and Treatment of Premium Bulls.	75	Barley Sowing.
25	Fowl Cholera.	76	American Gooseberry Mildew.
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34	The Revival of Tillage.	85	Some Injurious Orchard Insects.
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37	" " Meadow Hay.	88	Instructions for the Home Bottling of Fruit.
38	" " Potatoes.	89	The Construction of Piggeries.
39	" " Mangolds.	90	Advantages of Early Ploughing.
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DECEMBER
1907

New Plants from China.

By F. W. MOORE, M.A., Director Royal Botanic Gardens, Glasnevin.

MR VICARY GIBBS' article on the recent introductions of trees and shrubs from China will awaken keen interest in all Irish gardens, and the numerous plants cited by him will no doubt be noted for future additions to our choice Irish collections of trees and shrubs. It is very good of Mr. Vicary Gibbs to furnish readers of IRISH GARDENING with early and reliable information about plants which he has, but which as yet are not available for the general public. He certainly has in no way exaggerated the results of Mr. Wilson's explorations; on the contrary, he has been very moderate in all his statements. It will give some idea of the vast accession of novelties when I state that there are at present at Glasnevin young vigorous plants of no less than sixty-nine (69) genera of trees and shrubs raised from Chinese seeds, and over 250 distinct species. Further apparently sound seed of additional genera have been sown, but as these have not yet germinated I do not include them

in the list of introductions. The following is the list of genera of which there are living plants:—Actinidia, Azalea, Berberis, Buddleia,

Caesalpinia, Carriera, Catalpa, Celastrus, Cercis, Clerodendron, Cocculus, Coriaria, Cornus, Corylopsis, Cotoneaster, Cudrania, *Cunninghamia Davidia*, Deutzia, Diervilla, Elscholtzia, Eleutherococcus, Euonymus, Euptelea, Forsythia, Fraxinus, *Crewia*, Hale-sia, Heteromeles, Hydrangea, Hypericum, Idesia, Ilex, Indigofera, Jasminum, Keteleeria, Lespedeza, Lindera, Liriodendron, Lonicera, Magnolia, Nothopanax, Paeonia, Paederia, Philadelphus, Photinia, Pinus, Pittosporum, Piptanthus, Poliothrysis, Potentilla, Prunus, *Pterocarya*, Pteroceltis, Quercus, Rhododendron, Rosa, Sarcococca, Schizandra, Schizopharama, Smilax, Sorbus,

Stachyurus, Staphylea, Stæsiransva, Styax, Syringa, Vitis, and Xylosma.

The development and behaviour of several of these will be watched with much interest, as we have had so far no opportunity of judging of



VIBURNUM RHIDOPHYLLUM

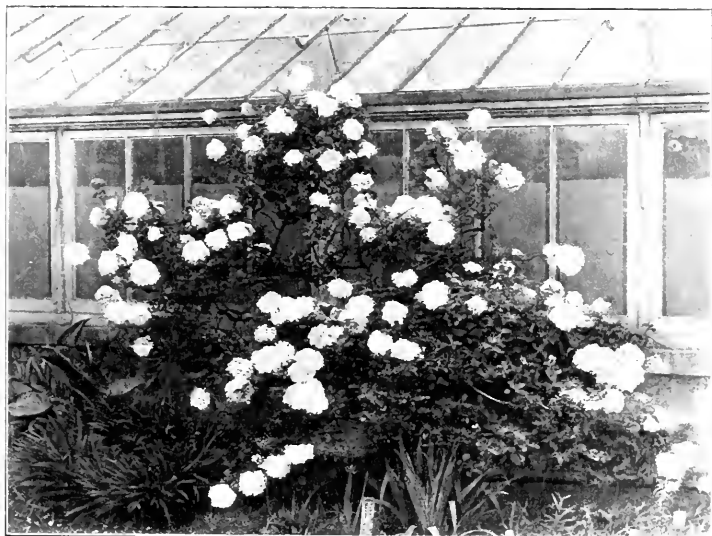
(One of Wilson's new Chinese Plants photographed at Glasnevin).

their merits or demerits, such as *Cudrania*, *Carreria*, *Nothospanax*, *Paederia*, *Poliothyrsis*, *Pteroceltis*, and *Xylosma*.

It is difficult to appreciate the vast tracts of country which have been travelled and explored by Mr. Wilson. From the sea-board of China, through the vast country itself, to the border uplands of Thibet has been traversed. The great Yangtse Kiang has been followed up, and the mountain ranges near it have been explored. Great provinces, such as Yunnan, Hupeh, Hoonan, Kansuk, Schechuen, have been searched, and districts never before traversed by a European have been visited, the marvellous richness of the flora bewildering the voyager, the harvest of whose work we now can reap. The great question which concerns us is whether our Irish climate is likely to suit these Chinese plants, and fortunately we may answer in the majority of cases—Yes! The fairly even temperature of Ireland, the heavy rainfall and moist atmosphere, seem admirably suited for Japanese, Chinese, Chilian, New Zealand, and Upper Himalayan plants, especially evergreens, which flourish in our milder counties as they do in no other part of Britain, Cornwall included. *Rhododendron*, *Philesia*, *Laurelia*, *Desfontainea*, *Tricuspidaria*, *Lomatia* and *Senecio* are instances of such plants. Taking Chinese plants separately we can argue from those already in cultivation what the behaviour of the new comers will be. For instance, the tea plant is quite hardy in many gardens. *Berberis diaphana*, *B. Fortunei*, *B. (Mahonia) japonica*, and other Chinese species are quite hardy. *Nandina domestica* is hardy. *Spiraea mongolica*, *S. prunifolia*, *S. japonica*, *S. Henryi*, and *S. Thunbergi* are quite hardy; *Azalea indica*, *A. ledifolia*, and *A. sinense* are quite at home off the limestone, and flower freely. *Rhododendron decorum*, *R. Delavayi*, and *R. Fortunei*, comparatively tender Chinese species, have stood unprotected and uninjured for over ten years in Irish gardens. *Actinidia* in a Co. Wicklow garden covers a larger space than I have ever seen covered by any individual climber, ivy or *Clematis Vitalba* not excepted.

If satisfied as to the probable hardness of the new Chinese plants, the next question which faces us is their merits as decorative garden plants—Are they likely to be good, are they likely to be an advance on those we already possess? Here again we can judge from the

forerunners, and judged by this criterion the answer will be favourable. If we take the well-known and popular genera we have *Berberis acuminata* and *B. Wilsoni*, two different types, both beautiful, both useful garden plants. The latter is a really charming little plant, free-flowering, covered with bright red fruit in autumn, and the foliage turning brilliant red before falling. It is an excellent plant for a rock work. *Stranvesia undulata*, mentioned by Mr. Vicary Gibbs, is now covered with attractive red berries. Several of the new *Buddleias* have flowered and proved to be worthy additions to our garden plants. *Cotonaster Francheti*, *C. bullata*, *C. Henryi*, and *C. humifusa* are welcome additions to this genus. In the vines, *Vitis Thunbergi* and *V. coignetiae* represented the best we had for bright coloured autumn foliage, but *V. flexuosa major* is still better, and *V. Henryi*, *V. Thompsoni*, *V. armata*, and *V. Wilsoni* are bright and varied. The foliage of *Eupteleia* is also, at the time of writing, most attractive. Hitherto the various ranges of Himalayas in Nepal, Sikkim, &c., have been regarded as the home of species of *Rhododendron*, but Dr. Henry informs me that the species in China are even more numerous, and that some are very beautiful. Fortunately many species have already been established, some of which have flowered, and these whet the appetite for those which are to follow, and indicate that in this group alone hitherto unknown species from China will add beauty and variety to our gardens. One is puzzled to think where all these plants are to find a home. Glasnevin is already crowded, the soil is poor, the situation exposed, and the soil is strongly impregnated with lime; hence its capabilities are limited. Is there no hope of a great National Arboretum being founded in some fairly accessible district, say Co. Wicklow, which would be devoted solely to trees and shrubs? Such an idea was mooted recently by an enthusiastic and capable amateur, a very suitable site was selected which could have been secured at a moderate rent and on very favourable terms. There were shelter, water, varying elevations, varying exposures, peat, loam, bog, and no limestone, but for want of support the project was abandoned. Will it always be so? The Americans have their botanical gardens, but they also have their great Arnold Arboretum.



VIBURNUM MACROCEPHALUM

(A Chinese Plant, but not of recent introduction, photographed at Glasnevin)

The Fading Leaf.

By A. E. MOERAN, Portumna.

HOW am I to find adjectives to describe the glories of the autumn colours and tints that this year have blushed and blazed and flared and glowed before our eyes, and that, even now in this third week in November, are beautiful beyond expression, though slowly fading into the tracery of bare branches against the sky?

In many ways it was a late spring, and, perhaps, for that reason, among trees it has been a wonderful seed year. On the first of June the ash were standing as grey and bare as in midwinter, though the elms were laden with such masses of their curious, brown, scaly flowers as to look at a distance as though already their leaves were withered and old.

This autumn the small boys have revelled in a selection of the largest, and roundest, and most chestnutty chestnuts, and the flocks of wood pigeons have puffed out their burnished breasts with a profusion of beech nuts and acorns greater than the oldest wood pigeon can remember. On the bare blackthorn branches the sloes still hang in great, purple clusters, and under the roadside crab-apple trees the

wheels of passing carts crunch through a green carpet of that forbidden fruit.

But of the leaves and their colours who shall say? One thing is certain, pride of place goes to the beech tree. The unfortunate lack of adjectives in the English, or in any language, prohibit any adequate description of its splendours, so we must e'er let it be. It supplies most of the richness and gorgeousness of our autumn landscapes, but other trees supply a hundred hundred other shades, and tones, and mixtures, and blends of colour, each so marvellously distinct, and yet so blended that no one can tell where green and olive give way to gold and yellow, or where gold and yellow merge into copper and bronze, and crimson and scarlet. And through all the blaze of colour how grandly our staunch, foulweather friends, the evergreens, bear themselves. How well the towering, dark-green, silver firs and the softer-foliaged spruces look, and that brave old Scots fir with the frosty sun glistening on its silver-green needles, and on its rugged, red-brown stem. What a contrast is the gold and silver tinsel of the birch beside it, and yet what harmony.

I wonder how many of us realize and are thankful for the wonderful fact that this great,

yearly panorama of beauty and delight is a special exception made in our favour to Nature's law that death and decay is sad, and forbidding, and repellent.

It might have been ordained that the fair summer's green should droop, and hang, and rot, and moulder, and swing in lank repulsiveness to the autumn winds. What a splendidly gracious idea it was—I say it with all reverence—to turn this great fading and death into the crowning beauty of the year!

I think we Irish do appreciate looking at beautiful things, but too generally and vaguely, it gives us pleasure, so we like it, but think no more about it; but to him whose heart is open to seek after and try to comprehend the myriad marvellous provisions of the All-wise Creator, who, when He had made the grass, and herbs, and trees bearing fruit after their kind, *saw that it was good*; to him is opened pleasures and possibilities that I am afraid far too many of us live and die without realising.

The Distribution of Plants in the Garden.

By F. O. WELLS, Author of *The Garden Decorative*.

IN the planting of a garden there are many considerations worth bearing in mind if we would have our gardens as beautiful as we may. The distribution of the plants is an important matter, and can do much to make or mar the beauty and the interest of the garden generally. One of the great points in good gardening is to achieve character and to escape monotony. I have seen a garden that was once a charming small garden; but it was enlarged by a good many extra beds and borders. These were, for the most part, stocked from the superfluous plants obtained by lifting and dividing the subjects in the original portion. The result was, that these were taken and put in wherever space for them could be found, here, there, and everywhere, so that certain familiar plants were to be seen wherever one turned. This spelt the direst monotony, and the garden soon came to lack any individual or distinct interest. To my mind it is the greatest mistake thus to scatter plants throughout the whole garden, and it seems to me that a far greater decorativeness is secured by taking, let

us say, the campanulas and letting them appear to advantage in not more than one or two borders, but in these they may become a prominent feature, and can be represented by several varieties. Then, again, the perennial sunflowers—if these be used for all they are worth in one portion of the garden, they will not have the same interest if they reappear in all the remaining portions also—and it is the same with other subjects. I never mind how many times a plant is repeated in the same border, either in clumps or lines, or in some cases, single plants—in fact I often like the emphasis this gives, but that is a very different thing from repeating a subject all over the garden. If this be done, as I have seen it done repeatedly, one knows, practically speaking, the contents of each border after seeing a simple one. A second important point in the distribution of plants in a garden is the securing and placing of plants that by reason of the character of their foliage, or habit of growth, or of the striking appearance of their blossoms, naturally stand out with greater prominence than the generality of other subjects. Most plants with straight sword-blade foliage might be included under this category, especially plants so handsome as phormiums. Wherever they are placed, so long as they are not crowded and half-hidden, they are bound to be prominent subjects. Well, let us make the most of them, let us give them a prominent position, and even, perhaps, make other subjects subservient to enhance their character. It is the same with Pampas grass, so decorative, so striking, so full of graceful character, it is worth placing it, that all these facts may be taken full advantage of for all they are worth. Let us decide where the vantage points in our gardens lie, and then study what will best emphasise them.



MR. E. F. HAWES, in an address to the British Gardeners' Association on the 11th of last month, advocated a fuller recognition of horticulture by the State, and suggested the establishment of a "Commission of Horticulture," with the appointment of permanent expert horticultural commissioners to the Board of Agriculture with the view among other functions of uniting the whole of the present existing horticulture societies and organisations into a central chamber of horticulture so as to secure co-operation, direction, and unity of control over the various horticultural activities in the country.

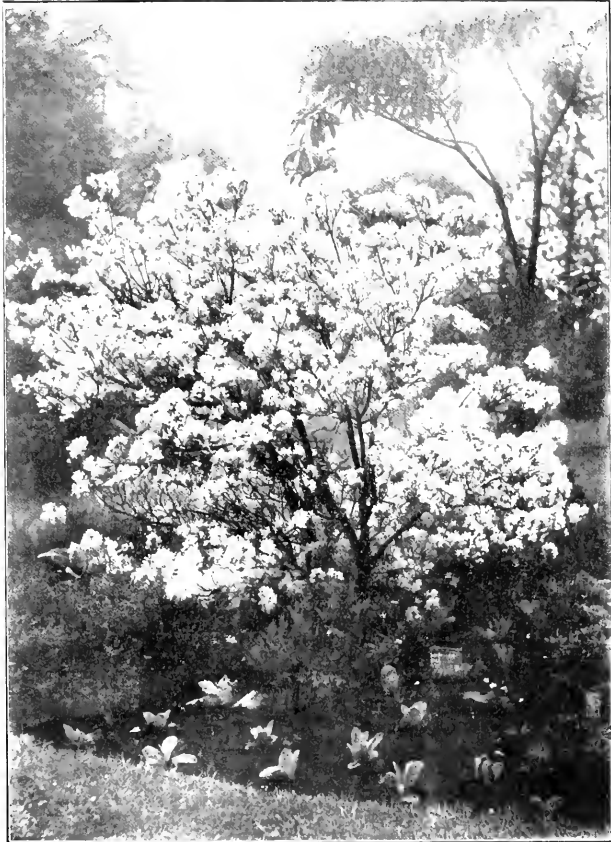
Hybridizing Narcissi.

THERE is quite an army of hybridists in various parts of the United Kingdom busily engaged in the improvement of the narcissus. The results of their labours are to be seen in the wonderful flowers

of varied form and brilliant colour which are exhibited at the increasing number of daffodil and spring flower shows. Although much has been done and great improvement effected during the last few years, still the possibilities of the narcissus are practically inexhaustible, as every species and hybrid may be intercrossed one with another.

The hybridizing of narcissi has, within recent years, been reduced to a very fine science. It can now be foretold with a fair amount of certainty what type of flower a particular cross will produce. The origin of several natural hybrids has been proved by the raising of varieties identical under artificial cross fertilization, also by sowing self-fertilized seed from a hybrid; the progeny are stated by the Rev. Mr. Engleheart to have reverted to the two species from which the hybrid was raised. Taking the classes as they are generally to be found in a daffodil specialist's catalogue, the large Trumpet varieties are all got by crossing the different forms of *N. pseudo narcissus* with one another. The various *Incomparabilis* forms are the result of crossing *N. pseudo narcissus* and *N. poeticus*. By again crossing *N. Incomparabilis* by *N. poeticus* we get Burbridge and the new Englehearti class. The new Poëticus varieties are the outcome of intercrossing the old Poëticus varieties. *N. odoratus* is stated to be the result of crossing *N. pseudo narcissus* by *N. jonquilla*, whereas from *N. poeticus* crossed by *N. tazetta* we get *N. poetaz*. The older varieties have already been crossed for almost all they are worth, although there may be a slight chance of getting something new and improved from them. Still it is little better than a waste of time and labour to work with inferior material, further than the satisfaction that may be derived from

raising a flower similar to one that is already in commerce. I would, therefore, recommend any one who contemplates hybridizing narcissi to procure some of the newer and more improved forms to start with. No standard of excellence has been laid down by the Narcissus Committee of the Royal Horticultural Society or any other daffodil society. For exhibition, however,



RHODODENDRON YUNNANENSE.

(A Chinese Plant, first introduced by the French Missionaries, photographed at Glasnevin)

the following points are of paramount importance—viz., symmetrical form, colour, substance and size; if any of the above are lacking the flower loses considerably for exhibition purposes. For example, no matter how large and fine the trumpet of a daffodil may be, if its perianth be flabby, transparent, and "spidery," it would not be so good for exhibition as a much less flower that had a firm, flat and overlapping perianth. The spidery flower, however, is not by any means to

be followed.

be despised, as for many forms of decoration it is to be preferred to its more formal brother. In selecting varieties for hybridizing a considerable amount of knowledge and care is necessary, only those possessing the good qualities named above and of sound constitution should be used. It is very important that the parents of our new hybrids should be vigorous, healthy plants, for it would simply be a waste of time, money and energy raising a flower, no matter how beautiful, if the plant gradually dwindled after producing its first flower.

Another very important and complex point is the fertility of the various species and hybrids. Although sterility of hybrids does not prevail in the narcissi, still some of the hybrids are so hard to get to bear seed that for practical hybridizing purposes they might as well be sterile. Again, some varieties bear a good crop of seed when crossed by a certain variety, whereas if crossed by another variety with equally potent pollen may not bear a single seed. However, that is a point that can only be learned by experience of the varieties being worked with.

The following is a very reliable list of seed-bearing plants and all flowers worth working with. Among older trumpets, Emperor, M. J. Berkley, Mrs. W. Ware, Horsfieldii, and Madame l'Emp are good flowers and vigorous plants. Maximus, although rather delicate on some soils, is worth a trial on account of its fine colour and because it is said to be one of the parents of King Alfred. Among newer trumpets Madam de Graaff, Golden Ball, King Alfred, Mrs. Robert Sydenham, Mrs. J. H. Veitch, Weardale Perfection, and Judge Bird are all fairly fertile. Other good seed-bearers are Artemus, Lady Margaret Boscawen, Crown Prince, Dorothy Wemyss, Maggie May, Minnie Hume, Blood Orange, Oreflamme, Cressit, Incognita, Lady Edith Foljambe, Acme, Cassandra and Homer.

As pollen plants the Poëticus section is the most valuable, and should be extensively used. Generally speaking, the pollen of Incomparabilis, Barrii, Leedsii and Burbidgei sections is not so fertile as the Trumpet and Poëticus varieties. Again, amongst Trumpet varieties the bicolors do not give so fertile pollen as the yellow and white Trumpets, one outstanding exception being bicolor Judge Bird, the pollen of which seems to have a wonderful effect wherever applied, and practically every flower touched with its pollen produced seed in abundance. The readers of IRISH GARDENING may consider the prices of some of the varieties enumerated a bit high. The up-to-date hybridist, however, recognises that to get the best results it is necessary to have good material to work with, and, therefore, frequently pays over £20 for a bulb of a good hybridizing variety. The actual operation of cross hybridizing is very simple, so I will merely touch on it. The first thing to be done is to remove the anthers, which should be done with a small scissors or tweezers immediately the flower opens and before the anthers burst. Then in two or three days, according to weather conditions, the stigma should be ready to receive the pollen, which should be applied during the early part of a sunny day with a small camel hair brush, the flower carefully labelled as crossed.

When it is seen that the cross has taken the seed pod should be staked and tied, the seed carefully watched

and gathered as it ripens, then sown broadcast in boxes as early as possible after it had all been collected. The boxes should be set in a cold frame and left there for two years. At the end of that time the bulbets may be lifted and planted in beds in the open, where a small percentage will flower at the end of the fourth year from sowing.

J. SANGSTER.

Lissadell, Sligo.

Roses.

By O'DONEL BROWNE, M.D.

SOME of my readers may have lately received or seen a copy of a gardening paper with a large plate in it on which were depicted photographs of some celebrated rose raisers of the British Isles, and amongst them I find four well-known Irish faces. It must be admitted by all that the man who raises a good and new rose by "new," I mean a seedling rose, derived from cross hybridizing, is a benefactor to the rose world and deserves all the praise we can bestow on him.

Few readers have any idea of the time, patience and brain work that lie in this most complexing work, but merely think that cross-breeding is an easy business. True, the actual crossing of two flowers is not, in itself, a difficult work, but all does not lie here. The seeds in the fertilized pod have to be ripened—they have to be separated and sown in pots. When they commence to grow—sometimes it takes months for that seed to germinate—the tiny plant, a rose growing on its own roots, must be tended most carefully, and bye and bye up comes a tiny flower showing the colour of the future rose, but hardly anything more. Just as an animal in its infancy is weak and difficult to judge of its future looks and parental likeness, so the young rose is a different looking flower from what it will be in future time. For it takes a rose sometimes several years of successful budding and growing on briar stocks before it gains its maturity. It seems as if it gained some inherent power of soil and climate to develop some of its qualities. Now, when this little seedling rose has borne its first flower the buds on this rod are taken and budded on to briars. The whole future of this new rose depends on these buds, and the attention they get is very great. As fast as he can the raiser works up a stock of the variety, and it is this testing and labour which makes new seedling roses so costly when they are first sent out. I have been told by the best raisers that it sometimes takes six years from the seed-sowing to the actual sale, and when you come to think of all the work and care the raiser has spent you surely cannot grumble at his price. Let us should think that every seed sown is destined to become a glorious flower, let me explain that nine-tenths of them do not fulfil this requirement. Only recently I asked one of our Irish raisers about another raiser's success, and he replied, "X. does not know how lucky he has been." I may mention that X. had raised a fine flower at the time. Now, lest some raisers other than our Irish raisers should grumble, and say I write this article to "puff up" our raisers, let me assure them that I do not wish to do so, for you can purchase any of the varieties raised by all the rose raisers in the

world at any nursery when once they are on the market. Still we must always be most thankful to our raisers for all they have done, and I think we should be very proud of Messrs. Alex. Dickson, of Newtownards, as raisers, seeing that they have raised more gold medal varieties than any two other firms in the world. How proud they must have been when they swept the championship cup in London last July with 72 roses, 36 varieties of which emanated from seedlings raised in Newtownards.

It was a triumph which may take many years to repeat.

Now, sundry grumblings reach my ears from Belfast, where Hugh Dickson has lately started raising seedlings, and we already know that the finest crimson rose, taken all round, bears the name of their respected father, Hugh Dickson, who unfortunately is no longer with us. Messrs. Hugh Dickson have risen by leaps and bounds, and in a few years have proved to all the world that their seedlings are very "extra special" indeed. But growls still reach me from Portadown side—they are a noisy lot those Portadownfolk—where Samuel McGredy & Sons have a large nursery. Messrs. McGredy began about the same time as Messrs. Hugh Dickson, and it is most interesting to watch the race between these three Irish firms to collar those gold medals in England. So greedy (?) are they that they seized every gold medal in England this year. Long may they continue to serve us so well. But, when all is said and done, we must never forget one whose photograph is placed in the centre of the lot. I refer to the late Henry Bennett. What a pity he was not spared to continue giving us varieties, which are a credit to him and us!

Sweet Pea for 1910

IT is now time to select our sweet peas for the coming season. If we delay the demand is so great for seeds and the harvest small, probably we shall miss some of the best varieties. "Sold out" is poor consolation to hear from the seed-man instead of receiving our parcels of seeds. It is best to order at once, and then we shall not be disappointed. It is weary work wading through

the shoal of names we get in all sweet pea catalogues. Last year I grew over eighty varieties, and it might help readers of IRISH GARDENING if I give what I proved to be the best fifteen:—King Edward Spencer (crimson), Nora Unwin (white), Audrey Crier (pink), Helen Lewis (orange), John Tugman (carmine), Mrs. Henry Bell (cream pink), Elsie Herbert (picotee), Othello Spencer (maroon), Tennant Spencer (mauve), Mrs. Harcastle Sykes (blush), Miss A. Brown (lavender), Apple Blossom Spencer (bicolor), Marjori Willis (rose), Yankee (red stripe), and Clara Curtis (cream).

These all came true with me, but soil has a lot to do with variation. We are promised some magnificent

things for 1910, but it is from the older varieties we draw the greater part of our supplies. In the company of such varieties as I have mentioned the new-comers will prove their worth, although I have heard from a good source that Dusky Monarch, Snowflake, George Stark and Earl Spencer are some of the finest ever seen. By the way, has any reader of IRISH GARDENING ever found a cure or preventative for "streak"? If any one has he would greatly help his brethren by stating it, for if something is not soon discovered many growers will have to give up in despair.

C. E. COSTER.



ROSA SERICEA VAR. PTERACANTHA

(One of Wilson's new Chinese Plants photographed at Glasnevin.)

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Pure-Bred Seeds.

By PROFESSOR JAMES WILSON, M.A., F.R.S.

IF there is one thing more than another we should like to impress upon horticulturists it is the necessity for having pure seeds—that is, seeds that will produce the plants they are bought to produce, and the need for having pure seed is becoming greater and greater every year. Nowadays we almost live upon hybrids; upon things that are new, and when every producer of a new variety is rushing into the market with his product, so as to reap the financial benefit of his work, it is becoming more and more urgent that we look closely into the probability of the seed we buy producing what we want. Not only must the horticulturist do this, but the seedsman must do so also. Indeed, it is more incumbent upon the seedsman than upon the horticulturist, for he is likely to suffer the greater loss if he does not do so.

Our hybrids—our new plants—are all the blending of one or more varieties. We have known for many years that it is not the habit of a hybrid to breed true, and that the elimination of the wastrels has to be carried on for many years before they do so, that even in some cases they are never eliminated.

We now know why hybrids do not breed true, and knowing this the method of eliminating the wastrels becomes simple and clear. It is not to be accomplished by the mere annual roguing. Given time that method may suffice, but between the hurry of producers to sell and hurry of horticulturists to have the new plants in their gardens, the thing must be done with such system as we now know to be possible, which will achieve its purpose with all the greater speed.

The system really begins and ends with the producer, and depends upon Mendel's law of heredity. Our efforts to get pure seed affect the retail seedsman first of all, then the wholesale men, but through them, eventually and properly, they reach the producer of new varieties.

Let us imagine a case. A producer of new varieties sees two plants of the same species, one with a desirable colour of flower, the other with a desirable shape of leaf, and he wishes to get these two desirable characteristics combined in the same plant. He crosses the two original plants, and perhaps he finds both desirable characteristics combined in the progeny. But he must not assume these progeny will breed true again. He will find some of them breeding true for the flower, some for the leaf; but, unless by some very lucky chance, he cannot expect ordinary roguing to give him a race that will be free of reversions to the parents with which he first started. He must cross his hybrids again with one or other of his original plants before he can say for certain that they are pure.

Take the case of the flower. In the first cross the undesirable flower was apparently obliterated, although it afterwards turned up again. If he now crosses the desirable flower in his hybrid with the flower which was apparently obliterated, and he finds again that the same flower is obliterated, his hybrid is pure, and will continue to breed as desired. If some of the undesirable flower turns up, his hybrid is not pure.

We have taken a very simple case; but all our hybrids work very much in the same way, and all can be made pure before they leave the breeder's hands. Hence, our suggestion that the horticulturist should insist upon pure seed, and that by pressing upon his seedsman he should eventually bring pressure to bear upon the original producer. The effect would be not only to bring more pleasure to the horticulturist but more satisfaction and greater pecuniary gain to the producer.



PROFESSOR W. BATESON, F.R.S., the well-known Cambridge biologist, celebrated for his researches in matters relating to heredity, has accepted the directorship of the John Innes Horticultural Institution at Merton, Surrey. This institution has been established under the conditions set forth in the will of the late Mr. John Innes, of Merton, which provides for the carrying on of a horticultural research station under the direction and control of three trustees, acting in concert with representatives of the universities of Oxford, Cambridge, and London, or other bodies interested in the advance of agriculture or horticulture. The appointment of Professor Bateson as the first director is a good beginning, and is an indication that the council intends the work to be carried on upon sound, scientific lines, and to keep always in view the bearing of its research upon the practical problems in horticulture.

SPRAYING lawns with iron sulphate to free them from dandelion has been tried, and apparently with some success, at one of the American Agricultural Experimental Stations. On the sprayed areas no dandelion plants seeded, many of the large roots entirely disappeared, while young plants coming from seeds were entirely destroyed.

ACCORDING to results obtained from tests in a French garden it would seem that many garden plants, and particularly roses, are benefited by applications of salts of magnesia to the soil. It is claimed that in the majority of soils the addition of a little sulphate of magnesia would prove of great value to roses.

WE have received a copy of the catalogue of the spring show of the Clare Horticultural Society, to be held at Ennis on the 14th day of April next. There are three sections—the first, comprising daffodils and other spring flowers; the second, plants in pots, fibre or glasses; and the third, collections of vegetables and salad plants—in all twenty-six classes.

THE Garden?—well, you can't expect

To meet July in dark November,

The beds, though showing no neglect,

I quite admit bear signs of ember;

But though their painted pomp succumb,

And though you miss May's flowerless closes,

You'll find the brown chrysanthemums

And faint delayed autumnal roses.

THE national importance of soil surveys as an aid to the better utilisation of soils has long been recognised by the agricultural authorities of the United States. In this connection, by the way, Ireland is in advance of her sister islands, as already there is a soil survey branch in the Irish Geological Survey Office. A very important advance is being made at present in the New Jersey State, where a soil survey is begun in conjunction with the State Geological Survey. This survey "will include a chemical examination to determine the chemical composition of the soils and sub-soils, and the amounts of plant food present; a mechanical examination to determine the mechanical condition of the soil, its fineness or coarseness, its porosity or imperviousness, &c. It will also include an agricultural examination to determine the nature and quality of crops now produced, and all will be based upon the topographic and geological investigations of the past forty years."

As several kinds of root diseases are distributed by transplanted plants, and as these diseases are frequently due to the soil of the seed beds being infected, the precaution is taken in some nurseries to first sterilize the soil before sowing the seed. This, if properly done, will prevent such root troubles as may be caused by the presence of minute injurious organisms in the soil.

PROFESSOR PERCIVAL having resigned the directorship of the Department of Agriculture and Horticulture at the University College, Reading, the Council of the College has appointed Mr. Ronald Hart Synnot, B.Sc., as his successor. Mr. Synnot, previous to his present appointment, was private secretary to Sir Horace Plunket.

MR. H. M. RUSSELL (U. S. Department of Agriculture) has been experimenting with methods to control the ravages of thrips in greenhouses. The remedies recommended include fumigating with nicotine papers, nicotine liquid extract, and hydrocyanic acid gas, and spraying with water, nicotine liquids and "Kerosene" emulsion.

MR. WALTER SMITH, of Holywood, Co. Down, sends the following list of winter flowering plants that has been supplied to him by G. N. Smith of Newry:—*Auriculas*; *Primula calycina*, *P. decora*, *P. Cusiana*, *P. denticulata*, *P. marginata*, *P. rosea splendens*; *Rhododendron præcox*, *R. parviflorum*, *R. ciliatum*; *Saxifraga Elizabethæ*, *S. Burseriana*, *S. B. grandiflora*, *S. coriophylla*, *S. Salomonii*; *Trillium grandiflorum*, *T. erectum*, *T. E. album*, *T. grandiflorum roseum*; *Megasea ciliata*; *Amygdalus nana*; *Epimedium alpinum*, *E. sulphureum*; *Dicentra eximia*, *D. cucullaria*; *Daphne Blagayana*. A full list of winter flowering shrubs and plants is given in a book, "Hardy Border Flowers the Year Round," post free, 1s. 2d., from William Ward, 21 Callendar Street, Belfast.

At the annual social gathering of the Irish Gardeners Association, held last month in Dublin, Mr. W. S. Hall was presented with an address and handsome gold watch in recognition of his long service as honorary secretary to the Association. Mr. Hall retires after holding office for 11 years, and is succeeded by Mr. J. J. MacDonough, the energetic honorary secretary of the Dublin Seed and Nurserymen Employees' Association.

"THE great defect of most professional gardeners is that, however well they have been taught a right routine, they do not know the reason of it, and therefore cannot apply it to things outside their experience. They have learnt what they know as arbitrary and isolated facts, just as children learn a number of dates from bad teachers of history; and these facts do not help them to learn anything new. The best gardeners are those who cannot endure that any fact they learn should remain arbitrary and isolated. Every plant is to them a living and a reasonable being, and they wish to understand it as the poet wishes to understand men. They like to know the conditions of its native home and to see how those conditions have made its character. They like to see how far it is adaptable to the ordinary routine of the English garden and whether cultivation will improve it or injure it."—*Studies in Gardening*.

MESSRS. HUTCHINSON & MILLER, of the Rothamsted Experimental Station, have been carrying on researches on the direct assimilation of ammonium salts by plants. They find that certain agricultural plants are able to produce normal growth when the only source of nitrogen is an ammonium salt. As ammonium salts are readily nitrified under normal soil conditions by certain soil bacteria, the experimenters took necessary precautions to prevent this taking place. It is further discovered that plants which take up ammonium salts exclusively contain a higher percentage of albuminous substances in their tissues.

Mildews of the Gooseberry and the Apple.

FROM Dr. Eriksson two reprints have recently come to hand dealing with the American gooseberry mildew and the apple mildew respectively. In the first of these the question of the relative degree of susceptibility to attack exhibited by the different varieties of the gooseberry is dealt with. Dr. Eriksson is satisfied from his observation of and experience with this pest during the past few years that it is hopeless to try and combat it by strongly pruning back the bushes in late autumn or winter. He does not discuss, however, the advantages of combining with this treatment that of spraying the bushes in spring or early summer with liver of sulphur solution, a combined treatment which has apparently been tried with not a little success in some parts of England, though its trial in Ireland has not led to any encouraging results.

Dr. Eriksson thinks that the only way left out of the difficulty is the production of new varieties of gooseberries which shall be immune against the mildew. Unfortunately, however, at present there is not a single variety which is really immune, and so it is somewhat difficult to get a starting point for such work. The mountain gooseberry, which some observers have stated to be immune to the disease, is not really so, at any rate not in Sweden, but is merely somewhat less susceptible to attack than some other varieties. Nevertheless, even the possession of this partial immunity makes this variety worthy of the breeder's attention. In this connection the susceptibility of the red and the black currant to attack by this mildew is also discussed. In Sweden the red currant is not very easily attacked, but a bad attack on the black currant was noted in one locality in 1908. Possibly climatic influences may have something to do with the susceptibility to attack or otherwise.

In the present state of affairs Dr. Eriksson considers it of the utmost importance that those specialists in gooseberry culture who are well up in methods of breeding and selection should make a determined attempt to produce new varieties of gooseberries which will be immune to the American gooseberry mildew.

The second pamphlet, which is provided with six good photographic illustrations, deals with the apple mildew and its treatment. The appearance of affected twigs, leaves, and fruit is described, and the life history of the fungus dealt with. The following preventive means are recommended:—

1. Remove and burn all affected annual growths before the leaves fall in autumn.
2. After leaf-fall gather up and burn all leaves and fallen twigs and branches.
3. Spray the trees immediately after defoliation with a one per cent. solution of copper sulphate or liver of sulphur.
4. Lime the ground below the trees immediately after this.
5. In spring, before the foliage unfolds, repeat the spraying, and if necessary repeat once more after

flowering. [It would probably be wise to use the liver of sulphur for this last spraying and not the copper sulphate].

6. Raisers of new varieties from pips should take care that the seed is derived from fruit trees in orchards where the mildew is not present.

Dr. Eriksson states that the mildew was first noticed in Sweden in 1906 on young apple seedlings raised there from seed imported the previous year, and he believes that the mildew was introduced with the seed, as it was not to be found on any other apple trees in the neighbourhood. The same mildew has also been found on the pear.

G. H. P.

Current Topics.

By E. KNOWLDIN, F.R.H.S.

VEGETABLE Nationalists, but what of Athlone—Ochone! Cheap grapes and tasty tomatoes. The Gardeners' Hop, and twice round for the cup. Reafforestation, shortage of rain, early winter, and frigid recollections. Green 'uns, and grubs galore: what a gardener saw. Intensive rot, but where Frenchmen lead. Somebody's blundered. *Tempus fugit*: the stroke of twelve; Christmas currents and our *raison d'être* for — a fond farewell.

The new National Vegetable Society is going ahead and getting up a fine fat programme for 1910, when September 28th sees its first show at the Royal Horticultural Hall, London. The prizes will be big, of course, and the vegetables will be perfect we are sure. Cauliflowers tucked up on black velvet, and so on, and all that sort of thing; but we do hope it will not be a show for the giants alone, and we do hope, too, there will be single dish classes for nearly everything in which the cottagers and allotment holders may get a look in, even if the lords' gardeners have to look out, for you could not, in the season, go through the cottagers' gardens and the allotment holders' plots of the Southern English Counties without noting some wonderful examples of vegetable culture, although probably no one man could cope with the giants for collections.

So, September 28th, 1910, will be a great day for—somebodies; but why in the name of—of all the Prides and Perfections in the seed lists, confine such an important event to one day? Is it for fear that the celery will bolt, cabbages run, and the huge flabby-hearted onions collapse under the strain of a two or three days' show? Well, we don't know much about it yet, and although we have promised to look out for a "Sheddul" for one and get the "Sedual" for another, and when we get that—that which a dozen exhibitors have a dozen different intonations for, from the soft, sibilant "Sedual" to the hard rattle of a "Seuttle" which a messenger once demanded at Molesworth Street, then we shall know more about it.

But, what of Athlone, and surely we can think of that without the selfish insinuation of "ourselves alone"? Athlone, and the great Athlonian holiday, and its competitions across four counties, at least, which stirred to deeds of derring-do in that quaint old town where they

tickle the judicial tooth with Shannon trout for breakfast. And now it seems the leading spirits have resigned and the body is left with not a kick in it to shove off a 1000 show. And then to think of all that it has done, and to think that the old order of things in bogland may return—great Scott!

Fancy, Gros Colmans, or Gros Colmar, we never know which, so generally spell them turn about, and having the precedent of a high class paper doing the same no one need try to clip our bi-lingual burst, for the difference 'twixt mar and man is soon made up, or should be, and we are not open to conviction—fancy Gros Colmans, and excellent Colmars, too, ticketed tencepa a pound in Dublin? Is this over production or under consumption, or a little of both? For the grape grower, unfortunate man, it looks as if the day of small profits is not only at hand but actually arrived. How are tomatoes judged? Do the judges feel them, smell them, pinch them, or pat them, or like the cabman's horse with unfair fares gauge their rotundity, and then jib at the heavy weights? Other points being equal should flavour come into calculation? The second prize lot amongst twenty dishes at the recent Dublin show was Waterpark Hybrid, the most delicious fruit (or is it vegetable?) we have sampled since the old Hamgreen favourite grew in days of yore. No! we are not judging the judges, nor did we sample them at the show, that by courtesy of the grower was done since, but merely promulgate this to get the opinion of the visitor who carried off that dish by "mistake"! Will he, or she, kindly state it in the next number of IRISH GARDENING under the *nom de plume* of "Lifter." And, at the same time, will the visitor who miss took the half-bushel case of Newtown-on-Fergus apples kindly return empty to owner and advise us under the *nom de plume* of "Klepto." No questions will be asked.

Ere this is in print the Irish Gardeners' Association will have wound up an excellent season with the members' conversation and dance in the D.B.C., and with their new rules and new hon. sec. will doubtless settle down again seriously after the little "divarshion" to more good works. And the Gardeners' Cup goes for the second year to Mr. Davies (Obelisk Park Gardens), who will have to be fought hard the coming year to keep up the sport a little longer.

Beyond the little glorification at Bray Head on the last day of the Irish Arbor Week, we don't hear of much having been done in the way of this kind of reforestation. A good deal, of course, may have been done, but, if so, why keep it dark? After a flourish of trumpets, when the music dies off "so suddint like," it appears neither promising nor resultant. Certainly it is not the fault of the Irish Forestry Society, who, having piped, are perhaps expected to dance around themselves and Woburnise the bare bosom of old Ireland.

We should think that October did much to make up the shortage in the year's rainfall, of which, according to Rothamsted statistics, 1900 started with a deficiency of 284 tons per acre. However, those are not Irish measurements, still we have not been short of weather, and the few cold snaps, with a couple of Christmas-cardy kind of mornings, remind us of a winter in Kildare somewhere back close to the eighties, when Frost set in on

November 1st and lasted till till it went, anyway; but we have a vivid recollection of how it culminated in zero at midnight—in the shade, of course—our thermometer standing at 0, with a south wind by the same token, and in seven hours—viz., at seven in the morning—it stood at 40 degrees and was raining. It was a remarkable jump, and broke the back of winter that season, but was followed by another winter pretty well equal to it. Probably there are but few young gardeners know what zero really means, and we haven't the time to tell them, beyond remarking it was a fat time for the plumber but a lean one in the garden.

Surely this year has made a record for aphids, and grubs, and—all the "divilment" of insect life that comes to double our troubles and more than halve the gastronomic joys of the restaurant diner as he suspiciously picks his way through a cauliflower or a much chopped cabbage. There does not seem much grease handling done for the codlin moth in Ireland. Is it owing to what a gardener is averred to have seen—viz., that Mr. Codlin-moth, who is blessed with a fine pair of wings while "herself" has none, has been caught in the act of picking up the missus on his back and flying with her over the obstructing grease band to the incubating grounds above? We note that the gardening paper reporting these gymnastics asks for corroboration, and our observant young Irish gardeners might be on the *qui vive*.

The "golden soil" theory of French gardening seems to have pretty well had the bottom knocked out of it now, and without going into details the summing up may be taken as about five per cent. on outlay, but this only for those who have, as well as the money to put into it, the skill, untiring patience, and constant watchfulness to work it; without the latter, and a few other virtues as well, our French gardener may find himself pretty well on a par with the talented author of Lorna Doone, who lost £20,000 in pear-growing at Teddington. Speaking of pears, by the way, the French and their climate combined seem *facile princeps* with this fruit, and the collection of twenty-five varieties from Tours shown in London on the 9th ult., the bulk of which are unknown to us, is said to have surpassed anything we can do or are ever likely to do.

Talking of fruit, somebody surely has blundered over the plunder, we mean wonderberry. Allowing for all the proverbial Transatlantic tall talk, we cannot conceive that this wretched berry, as we have seen it, is the identical Burbank "creation" which has been boomed in the States. Compared with three samples we have now seen of Irish growth, our common blackberry is a king to it. Again, surely, over this berry—wonderberry, forsooth, nasty berry would be more nameful, this thing which we never want to see or hear of again—some one has blundered.

How time flies! With this *our* last of Current Topics *our* twelfth round is completed, for it is good that rotation of cropping should be recognised in IRISH GARDENING both figuratively and literally. Christmas *currents* provide, perhaps, *raison d'être* for adding other December topics to what should have been sooner done; but, somehow, stories lengthen when begun, so with one big, hearty, old, seasonable wish the writer bids his readers adieu.

The Winter Carnation in January.

IN the dull dark days of winter there are now plenty of beautiful flowers, even the man of moderate means can have his Cattleys, Odontoglossums and Cypripediums, and within recent years the carnation has been more esteemed as a winter flower. It has more to recommend it even than the aristocratic orchid, and when given the conditions it likes, its requirements are really very simple and easily applied. Yet I am in a position to be constantly applied to for advice as to why failures have taken place after all the care possible has been bestowed on the plants. One will write to say that the plants grow very well, but the flowers are so small; another, that they damp off, refusing to open. Of course it is at mid-winter, and after that difficulties are likely to arise. In November, and even in the early days of December, it is not so difficult to obtain fine flowers, but in January the vigour of the plants, which has been fairly well sustained through November and December, has become somewhat weakened, and more care is necessary to obtain good results. The foundation of success must be laid in careful culture. The amateur cultivator is not likely to plant out his carnations on benches, although this is a system of culture which may demand a good deal of attention in the future. In a few words, the true carnation requires a rich soil and the careful hand of the gardener, especially in winter; moreover, much previous preparation is necessary. An amateur can go to the dealer early in autumn and he can order plants large enough to flower and well set with flower buds. This is frequently done, and good results may be expected, but the real amateur not only wishes to flower his plants, he wants to grow them, and he must give them ten to twelve months' careful attention to get them up to the flowering stage. To begin with, no one can have carnation flowers in winter unless they have a heated house and one in which a temperature of 55 degrees can be kept up at night. In such a house there may be a corner where a hand-light or two can be placed, or a propagating frame over hot water pipes. Any heated place will be sufficient to strike the slips or cuttings in January. I used to strike all I required in a small cucumber house under the plants. A little sand is placed on the surface, the slips are inserted in the sand, and the labels to mark the different varieties also serve to sustain a few squares of glass laid over them, and they will form roots in ten days or a little more, according to the temperature of the house and the body of soil in which they are inserted. When roots are formed they are taken up, and each small plant is carefully placed in a small flower-pot and kept growing on a shelf near the glass in the house where the flowering carnations are. The flowering plants ought to be in six or eight-inch flower pots to obtain good blooms, and they must have good soil, decayed turfy loam is the best, but it must be free from wireworm, as this pest is fatal; four parts of decayed turfy loam, a

fourth part of decayed stable manure, and a fourth part of leaf-mould. If the loam is sandy no sand is needed to mix with it, if it is heavy loam a little sand is required to keep it open, or ground oyster shells; this can be obtained from seedsmen and sundriesmen in three sizes—fine, medium, or coarse.

The plants now in very small flower pots must be repotted during the spring and summer months until they form the flowering plants of the dreary days of winter, and so simple is the culture that, given the above potting soil, clean flower pots of the various sizes needed, and the ordinary attention that must be given to any greenhouse plants usually grown—pelargoniums, fuchsias, chrysanthemums, &c.—the results will be surprising. It takes the entire season to form a really good specimen, and as the young plants must be growing even in January they must be in heat during the three first months of the year, and in these early stages of their growth they require to be near the glass roof of the house in which they are growing, and to be repotted into large flower pots as they increase in growth. Indeed it is the fundamental principle of all good cultivation to see that the plants have a frequent supply of good soil for the roots and cleanliness on the leaves. Green-fly is very troublesome, but can easily be destroyed by fumigating. J. DOUGLAS.

GREAT BOOKHAM.



MR. E. MOLYNEUX gives in the current number of the *Gardener's Magazine* a descriptive list of new Japanese chrysanthemums that he recommends as really good novelties. As he remarks, they are not numerous this year. The following are the varieties mentioned:—Miss Lillian Hall, incurved with broad florets of a silvery-rose colour; Miss Ellie Greene, with long, drooping, graceful florets, rose-pink; Mrs. Robert Brown, with long, wide petals forming large, drooping blooms, brick-red on upper and bronzy-buff on under surface; Mrs. Charles Beckett, dwarf, with good foliage, florets broad, turned up at tip, soft yellow; Miss Annie Nicoll, pale-blush; Ella Ainsley, with wide, reflexed flowers of a rich crimson; Kate Ainsley, with large, well-filled blooms, golden with crimson or purple stripes; Mrs. F. C. Stoop, rose-coloured; Beecham Keeling, terra-cotta red; Mary Poulton, a shell pink; White Queen, ivory-white; George Hemming, rich amaranth; Mrs. Trevor Williams, wide florets, with twisted points, buff; Mrs. L. Thorne, soft yellow.

As a result of the potato trials conducted during the past season at the gardens of the Royal Horticultural Society at Wisley, it has been found that Irish "seeds" have again proved their superiority over both Scottish and English. The heaviest yield was from samples supplied from Mallow, Co. Cork, and the second best from Hillsborough, Co. Down, the third best was from Scotland, the fourth best from Co. Kildare, the fifth best from Cumberland, and the rest (to others) from English sources. Taking the results as a whole, the Irish tubers gave an average crop of 123 lbs., the Scottish 82 lbs., and the English and Welsh 72 lbs.

The Month's Work

The Flower Garden.

By J. H. CUMMING, Overseer, Royal Dublin Society,
Ball's Bridge.

CHRISTMAS ROSES.—It takes several years to work up a stock of good plants, and they should not be interfered with much. When grown in pots they should be placed in a cool house, where the lovely white flowers will fully develop and last for weeks during the winter. A partly shaded border with a rich, loamy soil is the best place for them outside. Plant the clumps eighteen inches apart in beds convenient for frames or lights to be placed over them this month. By so doing the flowers may be gathered clean and white. Carefully examine the interior of the frames for any slugs, and round the edges of the frame scatter some dry lime to prevent their access. Good beds will last for years in the same position, provided the drainage is good, and a top-dressing of loam and rotten dung forked in lightly after the flowering season is over.

BEDDING-OUT PLANTS.—With changeable weather some skill is needed to keep these plants in a healthy condition, especially where heating appliances are not satisfactory. Great care in watering must be taken, and it is better to allow the soil to become very dry than to keep it too moist. Pick off every faded leaf, and, if possible, spread out the plants more, so as to allow plenty of air to circulate amongst them. Such things as irises, heliotropes and coleus should be kept warm now to preserve the leaves. In foggy weather the lights on frames and ventilators in houses should be kept closed, otherwise the interiors soon become damp.

WINDOW BOXES.—Before it is too late arrangements should be made for an early spring display. It is an easy matter to make window boxes gay for two months before the summer occupants are placed in position. For an early display chionodoxa, crocuses and snowdrops may be used. Then among daffodils, Princes, Sir Watkin, *Barri conspicuus*, Stella and Cynosure are amongst the best, and being very cheap the expense of filling a few boxes is a small item. The same soil that was used for the summer plants will do for the bulbs. Loosen it up and plant the bulbs two inches apart and at the same depth. Other things may be associated with the bulbs, such as aubretias, violets and arabis. They can, of course, be easily grown for the purpose, and cover the surface of the soil till the bulbs occupy the place intended for them.

LILY OF THE VALLEY.—When the leaves are ripe enough to come readily from the crowns they should be removed and a top-dressing of loam, leaf-mould and sand in equal parts placed over the surface, just heavy enough to show the tops of the crowns visible. If intended for forcing select plump, firm crowns and let them lie on the open ground for a time, and if frost prevails so much the better. With this exposure they force something like restarted roots.

HARDY CLIMBERS.—These are seldom seen to advantage owing to their being stiffly trained against walls. One of the best ways of enjoying their beauty is to train them in a free way over trees, rough poles, or on trellis

work. In some low trees a graceful creeper may garland their heads. Some vigorous climbers in time ascend tall trees, and there are few more beautiful things than a veil of *Clematis montana* over a tall tree. Many lovely kinds may be grown, and in addition jasmines, honeysuckles and wild vines; and take the Virginian creeper for clothing the trunk of a tree, the effect in autumn is beautiful. The wistaria, too, looks best when planted with a background of evergreen trees. *Tropaeolum speciosum* in the north of Scotland takes possession of some hedges and trees, and such a drapery is lovely and too good to disturb. Planting may be done at a distance of about three feet away from the stem, with the roots pointing outwards, thereafter mulch with manure and suitable soil to encourage the roots to extend.

LILIBULBS.—The beauty of these stately flowers is unsurpassed. Their size, colour, fragrance, and usefulness render them the most useful of our bulbous plants. It is of great importance to plant early. New bulbs will be arriving this month, and the sooner they are potted or planted the better, as dried bulbs lose much of their vitality. Most of the lilies revel in a rich friable loam, in which plenty of coarse sand is mixed. Some of the varieties like a little peat, but the more popular kinds do very well without it. Choose a partially-shaded position in borders or beds, and a slight protection of coal-ashes or coarse leaf-soil put over the crowns will keep them safe till frost is gone.

VARIEGATED SHRUBS.—Among the hardy shrubs which help to give character to a place are those having variegated foliage. There are many beautiful kinds to select from, but the wise planter generally plants largely of those things he knows will lead to success. *Acacia japonica variegata* is a quick grower, and thrives almost anywhere. *Euonymus japonica, argentea* and *aurea* are both very effective. The variegated ivies soon grow into pretty bushes. *Osmathus ilicifolius variegata*, *Juniperus sabina variegata*, *Buxus aurea*, *Taxus baccata*, and the variegated form of *Cupressus lawsoniana* are all easily grown. *Retinosporas* do well in the country, and are invaluable in a small state for spring bedding; near towns they get a rusty appearance after a few years. A succession of small plants can be kept up by putting in a batch of cuttings every autumn in a sheltered border.

GENERAL WORK.—Pot plants in frames should be plunged to their rims in ashes, so that there may be no danger of the frost breaking the pots. Plants and bulbs intended for forcing should be kept as near to the glass as possible, and not subjected to a high temperature at first. Begin with a slight amount of extra warmth and increase it later. Pot plants in rooms where a fire burns constantly in winter will require cautious watering. Such plants are generally placed in saucers, and in the dead of winter it is a good plan to pour a little water into the saucers to rise by capillary attraction to the soil and roots. This prevents damp near the surface of the soil. When chrysanthemums pass out of flower their places can be taken with salvias, cyclamens, and zonal pelargoniums, and these will require more warmth than is usually found in a cool conservatory. Grass verges and walks should be kept swept and rolled to maintain as tidy an appearance as possible.

CHRISTMAS DECORATIONS.—With the advent of December thoughts of Christmas decoration for house and table will claim attention. The cheery aspect of Christmas is very much influenced by the decorative effect of holly, mistletoe, ivy and other evergreens, made more or less effective according to the means at disposal. Much of the holly this year is prolific of berries, and suitable schemes of decoration readily suggest themselves to those accustomed to exercising their taste in the matter. For Christmas week holly-filled vases look well throughout the house. White chrysanthemums and Christmas roses, arranged with their own foliage, are also in keeping; in fact anything to help to make the house and table look bright and gay is all important, and so follow the advice of the poet, who bids us

"Be merry all, be merry all,
With holly dress the festive hall,
Prepare the song, the feast, the ball,
To welcome merry Christmas."

To those who have followed my notes throughout the past year I offer the season's best wishes, and trust the suggestions given may have been helpful in aiding their labours in the noble art of gardening.

The Fruit Grounds.

By WILLIAM R. SPENCER, Manor House Gardens, Loughgall, Co. Armagh.

THE principal work during this month will be the pruning of fruit trees and bushes. This is a very important part of the fruit growers' business, but unfortunately but little understood by the vast majority of them. The following hints on each kind are given in the hope that it may help many who are anxious to do what they can in this way.

Trees properly pruned annually are pleasing to the eye as well as being more fruitful than those not attended to in this way. Pruning, besides making trees fruitful, keeps them in proper bounds and keeps them open, so that air and sun are freely admitted to all parts of the tree, making the fruit of better colour and flavour; it also strengthens the branches, making them better able to support a heavy crop of fruit.

APPLES.—The winter pruning of these is fairly simple when the method of producing fruit is understood. They produce fruit on spurs which issue from the sides of the branches. Some varieties also produce fruit on the ends of branches. Trees, bush and standard, which have attained their full size, or nearly so, require very little pruning. The best thing to do with such trees is to remove altogether any branch which may be too close to its neighbour to prevent them rubbing. Keep all outer branches well thinned so that light may be freely admitted. In these it is not necessary to cut the ends of shoots, as if in good bearing condition, as they should be at this age, very little growth will be made, and fruit buds will form naturally on them. Younger trees trained in these forms require more careful handling; each tree, before a knife is brought into contact with it, should be well surveyed. In doing so anyone with a practised eye will at once see what is to be removed and what is to be left, he will also have in his mind's eye the ultimate shape of the tree when finished. If

two branches cross each other one must be removed. All leading shoots are to be shortened; this must be done according to their strength. Shoots three feet in length may be shortened to about fifteen inches, those about twelve inches long to about six inches. All side shoots should be cut back to about two buds of their base, and sappy growths arising from stem, and suckers must be entirely removed. Always bear in mind that the centre of all bush trees must be kept open. All cankered parts in thick branches or trunk of trees must be cut out and painted over with tar, and shoots showing signs of it should be entirely removed. Apples trained on walls, either fan-shape or horizontal, are easily done, simply requiring all growths to be cut hard back to about two eyes of their base, all decaying spurs being removed and leaders laid in, shortening them to about half their length. In pruning horizontal trained trees which have not filled their allotted spaces, the upright leaders must be cut back to where the next pair of side branches are required. From this point three shoots must be secured—one to be trained upright and the others laid in one at each side. The foregoing notes apply to pear-trees, as both produce their fruit similarly.

CHERRIES AND PLUMS.—These produce their fruit on spurs and on shoots made the preceding year, and therefore may be taken together. Fan-training, where walls can be used for the purpose, is the best way to train these. Lay in the branches regularly, and at least nine inches apart. If plenty of spurs are in evidence on young wood the old ones should be well thinned out, as on the younger and more vigorous shoots the finest fruits are to be had. Leading shoots should be shortened about a third of their length, and the side shoots cut hard back. Plums trained as standards require the leading shoots shortened, and side ones spurred. Avoid cutting strong branches as much as possible. If they are regularly pruned this may be avoided, as gumming is sure to result.

GOOSEBERRIES, RED AND WHITE CURRANTS.—These may be taken together also. They produce their fruit almost exactly in the same way, so to avoid repetition may be classed together. The finest fruits are produced on the young wood of from one to three years old. This should always be secured; at least two young shoots should be secured every year; the older wood must be cut out to make room for it. All young shoots arising from the old branches should be cut hard back, and the leading shoots left full length, unless they are becoming too long, when they should be cut back to a healthy shoot. The young shoots or branches should not be cut back. Keep the centre of bushes well opened and all suckers arising from the roots cleared away; they should be pulled up, not cut back, as that would only cause several to come up the next year. And do not allow the branches to lie close together, keep them at least a foot apart, at, say, two feet from the ground, so that plenty of sun and air may be freely admitted. Black currants produce their fruit in almost the same way—viz., on spurs, and also on young wood of the past season, but always the best fruit on the young wood. So the method of pruning is obvious, secure plenty of young shoots and cut away old branches to make room for them; this must be done, otherwise bushes would become a thicket of almost use-

less twigs. Keep them open and allow plenty of room between the branches. Branches requiring to be shortened should be cut back to a shoot pointing outwards. Never allow them to grow towards the centre or cross each other.

RASPBERRIES.—These produce their fruit on the young wood, that is, the canes made the previous year. Never on old wood or spurs as in the case of currants, gooseberries, &c. The pruning of these is perfectly simple, only requiring the old canes to be cut clean away close to the ground every autumn and a sufficient supply of the young ones allowed to remain for fruiting the succeeding year. In selecting those to remain always choose the strongest, and always those nearest the centre of stool, the remainder may be cut away or pulled up by the roots and used for making new plantations. The canes left for fruiting are to be slightly shortened in March—about a foot in length being cut off the tops. Young ones, or those planted this year, should be cut down in spring to about a foot of the ground to cause young shoots to spring from the base; they fruit the succeeding year. If the fullest results are to be obtained, all winter pruning must be followed up in summer when young shoots are being made, by these being pinched or cut away. Pinching plumps up the buds at base of shoots and causes fruit buds to be developed. The pinching of such kinds as gooseberries is necessary for the ripening of fruit, as where closely pruned they produce a mass of wood which smothers up the fruit entirely, shielding them from the beneficial influences of sun and air. Peaches, cherries, and plums benefit by the entire removal of young shoots, where too thickly placed, when about an inch or two long, and sufficient only retained to fill vacancies or replace old worn out ones.

MARKETING FRUIT.—Owing to the enormous crops of apples of poor or middling quality, and the large quantities of good fruit also which had been blown off trees by the severe gales during October, and had in consequence to be put on the market early, good prices were hard to get. Very poor prices, indeed, have been the rule for the past two months. Growers were very glad, in many cases, to get an offer at all in the markets. This state of things must be remedied if fruit growing is to remain a profitable branch of husbandry, and to do this markets further afield will have to be sought. We are entirely dependent upon two or three large towns at present. We must try some of the English or Scotch towns. But before we attempt to do so our present system of packing for market will have to be improved. It would be useless sending in the packages at present in use to such places. The boxes recommended by the Department of Agriculture for the packing of fruit certainly do not appear to have taken on. Nor are they likely to do so, except for the very choicest fruits. They are considered too expensive and give too much trouble, as they take up some time to pack and grade fruit properly. What we would like to see is clean barrels such as are imported from Canada and other countries. If we could get these barrels at a fair price, with lids to nail down, made at home, I believe that they would take on better than the small boxes referred to. Of course fruit would have to be graded, and lids marked with grade, &c. If we had a

plentiful supply of these we could then pack our fruit and send them direct to any market, which it is quite impossible to do with the kind of barrels now in use. The above is written in the earnest hope that somebody may take this matter up, and that something practical may result from it. The need for it is great when we realise the fact that Bramley, Derby, and other first-class varieties have been freely sold here at anything from 2s. 6d. to 5s. per barrel of nine stone.

The Vegetable Garden.

By JAMES BRACKEN, Horticultural Instructor, Co. Cork.

THE forcing department must now have particular and constant attention so as to have sufficient and successional supplies at all times of rhubarb, sea-kale, asparagus, French beans, &c. In forcing asparagus the hot-bed ought to be in working order before planting it over—that is, the violence of first heating ought to be passed, and when a shallow layer of fine soil (about two inches) is spread over the fermenting material, strong four-year-old plants are lifted, and so that the roots may not suffer, without delay, they are closely placed together and covered over with fine rich soil. Dry leaves thoroughly mixed with fresh horse-stable manure, well turned and put firmly together, is the usual medium for supplying heat for forcing purposes, and lucky is the gardener who has a sufficiency. A deep frame and a mild hot-bed can be made to yield a large supply of rhubarb, if the stools are raised and covered in the manner described for asparagus. If asparagus is to be forced in frames the hot-bed must be made deep and firm enough to give a steady, high temperature. Both asparagus and rhubarb forced in frames must be matted over, properly securing the covering, and if the soil is at all dry a thorough watering with tepid water should be given at the start. To colour and to give flavour to asparagus, when the growths are well through the soil, light and air must be judiciously and cautiously given.

RHUBARB when well forced is so profitable, and so much more appreciated than the unforced kind, that it well deserves more general cultivation. Covering over the stools in the open with barrels and heaping fermenting material about these must be continued where this is the method of forcing.

FRENCH BEANS may still be sown on the chance of getting a small gathering, choosing seven-inch pots and using light soil. A hot-bed may be started for a first supply of Early Born carrots. In this, some Wood's frame radish and a little All The Year Round, or Paris Market lettuce may also be sown.

POTATOES.—Where not yet attended to potatoes for seed should be placed in sprouting boxes and stood in some position not too dark, but which can be made quite secure from severe frost. Medium-sized tubers of good form make the best seed. Beginning the month the seed for forcing in pits or in pots should be sprouted in heated glasshouses to hasten the process. A hot-bed may be started in a pit towards the end of the month for this purpose.

GENERAL WORK.—On all mild days freely ventilate frames growing cauliflower plants, lettuce, and endive,

and remove any decaying leaves, &c. Continue to trench and manure land. Basic slag on old soils is a valuable fertiliser. If to be used it ought to be put on at once, as its action is accounted slow. Take up mint and pot up, to place in heat for an early supply. In order to have the land tilled and prepared to suit the needs of the various crops it is necessary to decide on the site for each. In this rotation of crops as much as is possible must be considered. Onion beds may now be prepared and manured, remembering that the land can hardly be tilled too deeply or too well for this important crop. The turning and mixing of compost heaps and manure heaps might also have attention. Against severe frost the tops of celery may require to be protected with some covering. Broccoli seems oversucculent this season (at least in the south), as after a long drought the rains of autumn encouraged late and soft growth, which leaves the crop liable to suffer if severe frost follows. However, most of it must be left to take its chance, as protection in a general way is scarcely practicable.

The Reader.

ROSE GROWING MADE EASY. By E. T. Cook. Published by "The Country Life, Limited," at one shilling. This book, written for beginners, is both instructional and stimulating in its treatment of the subject. The author truly says that the rose garden to be beautiful must be designed, planted, and tended, not with labour and cultural skill only, but with brains and with love, and with all those best qualities of critical appreciation—the specially cultural knowledge of what is beautiful and why it is beautiful—besides the necessary ability of the practical cultivator. Referring to hybridization, amateurs are encouraged to attempt the engrossing work of raising new varieties, and in this connection particular mention is made of the successes of Dr. Campbell Hall as an example of what may be done by the enthusiastic rose grower.

Planting, pruning, and propagation are clearly described, and the processes abundantly illustrated where necessary by graphic outline drawings. There are chapters on arches and pergola, roses for walls, rose hedges, &c., together with an instructive chapter on the

making of a rose garden, accompanied by a working plan. The volume concludes with an exhaustive descriptive list of the best roses distinguishing between these that are suitable for standards and bushes. This little work is written in Mr. Cook's well known lucid style, and forms an excellent and not too bulky text book for all amateurs who desire to enter upon the fascinating pastime of rose growing.

MONTHLY GLEANING IN A SCOTTISH GARDEN, by L. H. Soutar. T. Fisher Unwin.—This tastefully got up volume contains a series of twelve chapters corresponding to the twelve months of the year. It consists of a succession of word pictures describing the pageant of the seasons as observed from day to day in an old-world Scottish garden rich in trees and shrubs and herbaceous flowering plants. As an example of our authoress's style we may quote the following as a typical passage:—"In the Wild Flower Garden among the lengthening grass the rhododendrons are a blaze of colour. Of all shrubs the rhododendrons are the most grateful for the care bestowed upon them in yielding showy blossom. They do not root deeply, and on the face of the hill which constitutes the Wild Flower Garden, beneath the shade of the trees and in a soil of little depth, 'Flaming Junie' has reached her fame in producing a bewildering feast of colour." The book is delightful reading, and will appeal to everyone who loves a garden and appreciates a literary treatment of a subject that is too often dealt with in a mere matter-of-fact way. It is not a book of cultural directions and a list of "the best varieties," but a book throbbing with a real appreciation of nature from the time that spring sends her heralds into the garden to quicken the new life of the year on through the joyous wealth of summer growth and beauty to the close of the year "when the mists, the rains, and the winds have fulfilled their ministry, when the withered leaves clothe the damp earth in lustreless decay, and the garden looks grey and wan, but the flowers have hid in their hearts the hope of spring, and beneath the cold sod lie, not dead, but sleeping."

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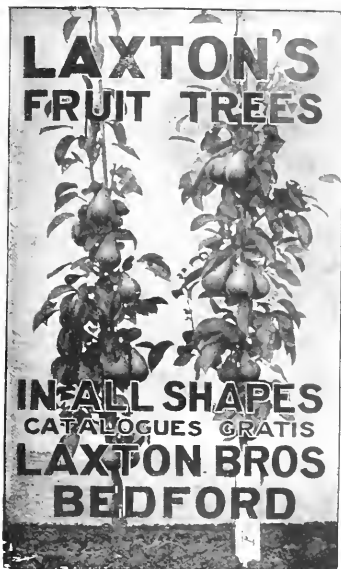
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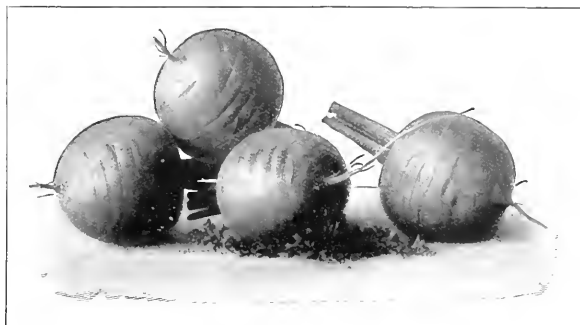
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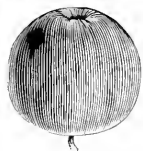
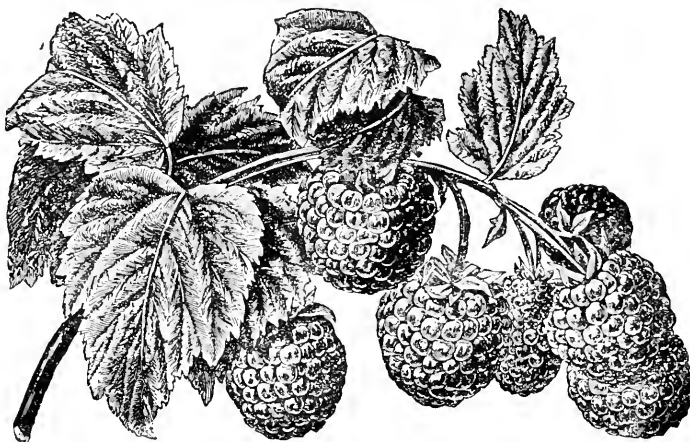
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Comprises :—Dorothy Eckford, Agnes Johnston, Bolton's Pink, Janet Scott, King Edward VII., Gladys Unwin, Romola Piazzani, Coccinea, Miss H. C. Philbrick, Duke of Westminster, Jeanie Gordon, Black Knight.

Collection 1B—200 seeds of each of the above	3/-
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2	<i>Out of Print.</i>	51	The Leather-Jacket Grub.
3	<i>Out of Print.</i>	52	Flax Experiments.
4	<i>Out of Print.</i>	53	The Construction of a Cowhouse.
5	<i>Out of Print.</i>	54	Calf Meal.
6	Charlock Spraying	55	The Apple.
7	Fluke in Sheep.	56	Cultivation of the Root Crop.
8	Timothy Meadows.	57	Fruit Packing.
9	The Turnip Fly.	58	Sprouting Seed Potatoes.
10	Wireworms.	59	Seed Testing Station for Ireland.
11	Prevention of White Scour in Calves.	60	The Packing of Butter.
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Appointment



To H.M.
The King

Franco-British Exhibition, London,
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Webbs' Early Frame Cauliflower . . . per pkt.	1 6	Webbs' Early Frame Radish . . . per oz.	0 6
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Webbs' Seld. Ailsa Craig Onion . . . per pkt.	1 6	Webbs' New First Crop Potato . . . per peck	4 6
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IT is all important that trees which are to be of long standing and to occupy valuable space on wall or espalier should be obtained from a reliable nursery where special attention is devoted to their culture, none but well-formed trees despatched, and all guaranteed true to name, as well as being really well packed for transit. In trained trees one wants well-balanced specimens, with good roots, and all growth clean and healthy, showing genuine culture. These points are all claimed to be fulfilled by the trees sent out by Messrs. WATSON & SONS, Clontarf Nurseries, Dublin. Summer visitors to the nurseries remark upon the quantity of healthy young trees undergoing training by skilled hands, and the firm has certainly found that good trees are their best advertisement, it usually being the case that, when one garden in a district has been supplied from Clontarf, orders shortly came along from neighbouring gardens also. The soil of Messrs. WATSON'S grounds seems to be admirably adapted to the production of fibrous roots, and in their Standard and Pyramid fruit trees, as well as the trained shapes for wall culture, good value is to be obtained. As regards packing, in their catalogue (which is to be got by post for the asking) Messrs. WATSON say they do not believe in growing good stuff and spoiling it by lack of care when being despatched; they are gratified to find damage in transit of the rarest occurrence under their up-to-date system of making up the trees.

The Drummond Benefit Association for Land Stewards and Gardeners.

THE annual meeting of the members of this association was held at 58 Dawson Street, Mr. D. MacLeod presiding.

The eleventh annual report and balance sheet was submitted and deemed highly satisfactory, the association having attained to a still higher level financially, and the membership now standing at 203. The members' subscriptions, including dividends on investment and donations from Messrs. W. Drummond and Sons, Ltd., amounted to £302 19s. 8d. Of this amount £166 2s. 6d. was disbursed as follows:—£77 in grants to widows and orphans of deceased members and £69 2s. 6d. to members while out of employment. The balance of income, £136 17s. 2d., has been added to the invested funds of the association, now bringing same to the handsome total of £1,018 5s. 4d.

The chairman, in moving the adoption of the report, referred to the benevolent character of the association, and as being one of mutual self-help. It had made steady and most gratifying progress since its inception, and from its already strong financial position he firmly believed that a future of great and ever-increasing usefulness was assured. He strongly urged that each one should determine to secure at least one new member during the ensuing year, and thus double their number as well as their total subscriptions. The members and committee could not but experience the truest gratification that in extending practical sympathy and help to the widow and orphan in their distress, as well as helping their brethren when out of employment, they were prosecuting one of the most beneficent of works in which any body of men can be engaged.

Forest, Fruit & all other Trees
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Stocks quite unequalled. Catalogues post free.
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Ask for Testimonials, of which some hundreds have been received.

SPECIMEN TESTIMONIAL.

From Mr. E. HUBBARD, Gardener to G. Haubury, Esq.,
Elythewood, Burnham, Bucks, May 15th, 1906.

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Correspondence.

SIR,—In "W. T.'s" report of Trim Show in your October issue he draws attention to that society's rule—"Vases of cut flowers may not be raised off the staging"—and suggests that country shows should have them tiered.

When the country societies can provide staging equal to that of the National Sweet Pea Society at the Royal University this season we shall all welcome the change, but I think it will take time and experience before isolated committees will erect such efficient accommodation.

In favour of flat staging it certainly works best at shows where the exhibitors have to supply their own vases, as these are easily procurable in three or more sizes to suit individual taste.

Is it fair that anyone living close to the place of an exhibition can bring flower pots or other contrivance to raise their exhibits, and thus crush out those competitors who cannot do likewise, owing to their having to come long distances by car or train?

The first prize exhibit of sweet peas at Trim Show had vases in three sizes, as suggested above, and the effect was very good—it owes its success to this fact.

Personally I think the rule is very fair, and places all exhibitors on an equal footing.

At two shows in this district, presumably, the committees were experimenting with raised staging this season, but the result in the sweet pea classes was most disastrous.

I agree with "Provincial" in your November number as to the advisability of starting a bureau for the exchange of suggestions and mutual help.

"WHITE SPENCER."

Catalogues.

SEED POTATOES. J. F. Williamson, Summer Hill, Malrow, Ireland.—This interesting and well illustrated catalogue is full of information respecting potatoes, but especially, of course, about the varieties with which Mr. Williamson's name is associated. Three pages are devoted to the results of comparative experiments carried on in different parts of England, under the control of various educational authorities, with English, Scotch, and Irish seed, the latter being supplied by Mr. Williamson. Everyone interested in the subject should certainly consult the tables here reproduced, in which the superiority of Irish seed potatoes is strikingly demonstrated. The freedom from black scab in Irish soil ought to still further enhance the value of seed tubers from this country.

SPRING LIST. S. M'Gredy & Son, Portadown.—This is a well-illustrated catalogue, running to 70 pages, and includes descriptive lists of all kinds of garden seeds. Sweet peas are apparently a speciality of the firm, and carefully selected collections are offered to intending exhibitors. In the matter of florists' flowers we note that systematic seed testing and recording are practised in order to secure a high standard of germination. In potato "seed" the Messrs. M'Gredy is said to be one of the largest distributors in Ireland.

POTATOES. Wesley Forbes, Gilnahirk, Belfast.—The booklet ought to be consulted by readers interested in potato culture. It contains full descriptions of the newer varieties, and is handsomely illustrated by photographic illustrations on plate paper. Reference is made to the importance of securing "seed" free from black



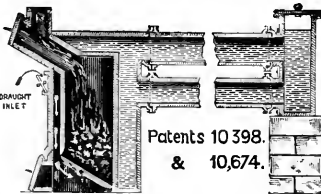
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SINGLE PACKETS OF ANY VARIETY IN COLLECTION No. 3, 3d. each. COLLECTIONS Nos. 2 and 3 may be had together for 3. and a Packet of "Phenomenal" and "Agnes Eckford" will be added free of charge.

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which, with the nine added varieties, will be 57 in all, and making it the best collection, considering the varieties ever offered for the money.

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Catalogues—*continued.*

scab. Mr. Forbes, whose name is well-known in connection with the popular "British Queen" potato, explains on page 2 that the success of his "seed" is "due to the crop being gathered before ripening and to the exposed situation of his farms."

NURSERY CATALOGUE. Pennick & Co.—The catalogues sent out from the Delgany Nurseries are compiled with great care and with a nice understanding of the use and beauty of trees. The present issue deserves a place in every country home; it is abundantly illustrated, and, as usual, well stocked with appropriate quotations culled from poets and nature lovers.

WEBB'S CATALOGUE for 1909. Wordsley, Stourbridge.—This is a bulky book of 154 pages, of which 74 are devoted to vegetables, and the remainder to flowers, luxuriously illustrated on every page with half-tone blocks of well-grown vegetables and flowers. Through the courtesy of the firm we are able to reproduce one of the smaller illustrations on page 11. In a special inset plate a large photographic reproduction is given of their gold medal vegetable exhibit at the recent Franco-British Exhibition which is sure to interest gardeners. In the flower section a large amount of information is given concerning the various plants listed, and altogether it is a work that ought to be secured by all garden lovers. We assume that readers of this journal may have a copy of it for the asking.

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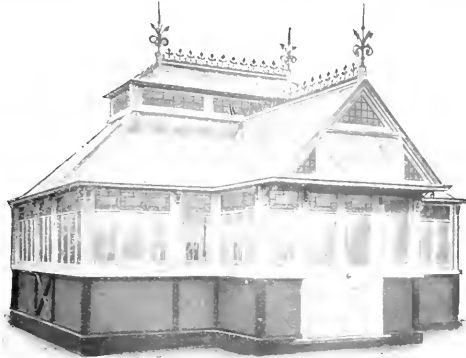


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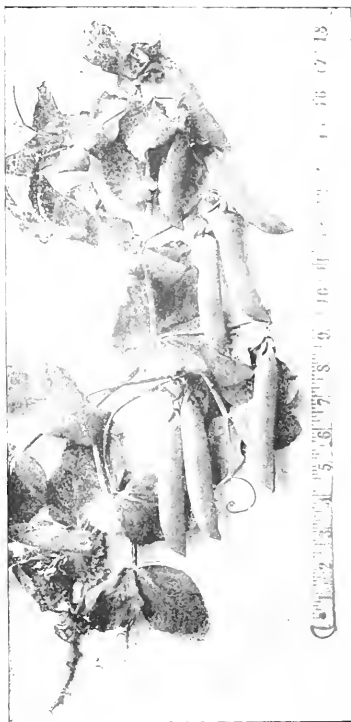
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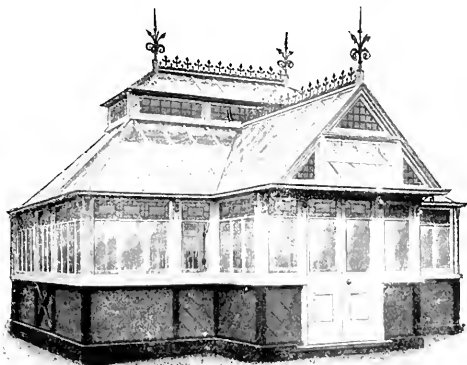
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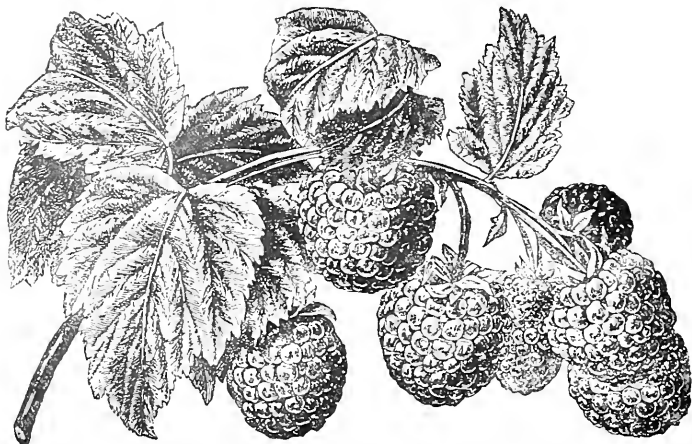
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RICHMOND.—Superior to Liberty in size and form, colour pure red scarlet, or tree-crimson and flowering habit, said to be much in advance of Liberty. Any 3 for 4s. 6d.; the set of 6 for 7s. 6d.

THE HARDY BLUE CERANIUMS.—This lovely hardy Genanium is rarely seen in beds or borders, yet it is absolutely a hardy perennial, and will give a wealth of glorious large blue flowers for months, increase and improve yearly. 3 for 1s. 6d.; 6 for 2s. 6d.; 12 for 4s. 6d., post free.

CLEMATIS MONTANA.—This lovely hardy white Clematis is now very scarce owing to the great demand for it. I can offer limited quantity, two years old. 2 for 2s. 3d.; three years old, 1s. 9d. each, 2 for 3s. RUBENS.—The new apple-blossom coloured Montana, very lovely and scarce. 2s. 6d. each.

GRAND CLIMBING CLEMATIS.—Glorious hardy, everlasting climber, all two years old. I have a grand stock of the following colours, and offer at a bargain price so long as unsold: Cream, Blue, Yellow, White, either colour separate, or mixed, as desired. 4 for 1s. 6d.; 8 for 2s. 6d.; 12 for 4s. All post free.

RARE NEW FRUIT SHOULD BE IN EVERY GARDEN.

CURRENT, VICTORIA BLACK (NEW).—This is the finest and largest Black Currant in cultivation. The fruit is of great size, splendid quality and flavour, and the plant is a most abundant bearer. Even young plants are literally covered with huge bunches of fruit almost as large as Grapes. Extra large 3-year-old trees, 4s. per dozen, carriage paid.

THE LOGANBERRY, the grandest of recent introductions, a cross between a Blackberry and a Raspberry. Hardy, vigorous grower, fruit large and most delicious. Will be in every garden later. Owing to great demand, stock very limited. 2 for 3s.; 6 for 8s., carriage paid.

RATHBUN BLACKBERRY.—The fruit is very large and handsome, intense black, with a very high polish and without any hard core, juicy, high flavoured; of so superior a quality that it is in a class by itself. Those accustomed to the old varieties would scarcely recognise it for a Blackberry, 3 for 2s. 6d.; 6 for 4s.; 12 for 7s. 6d.

SPECIAL FRUIT COLLECTION.—Two dessert Apples, 2 dessert Pears, 2 dessert Plums, 1 new Cherry (Noble). All 2-year-old trees, healthy, well grown, and the 7 trees for 7s. 6d. Free on rail.

CHAMPAGNE RHUBARB.—A grand new variety, of lovely crimson colour, and most delicious flavour, distinct from all others. The stems are very straight, and retain their beautiful colour when cooked. 6 for 1s. 6d.; 12 for 2s. 3d.

Mrs. GARDNER, F.R.H.S., PRORY HOUSE, STROUD.

THE "FOUR OAKS" SYRINGES

are acknowledged by all users to be

THE BEST SYRINGES THE WORLD HAS EVER SEEN.

Now in use in all the leading Gardens and Nurseries everywhere.
Send for samples and you will afterwards use no other make.

THE "UNDEXTABLE" PATTERNS ARE GUARANTEED AGAINST INDENTATION OF WORKING BARREL FOR THREE YEARS.

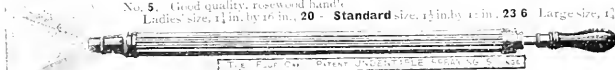


The "Four Oaks" Undentable Syringe, for fruit trees, is available in the following sizes, as illustrated above, and in the following prices:
 No. 1. Best quality, with teak handle. Ladies' size, 14 in. by 17 in., 16. Standard size, 12 in. by 25 in., 21. Large size, 14 in. by 27 in., 25.
 No. 2. Good quality, with rosewood handle. Ladies' size, 14 in. by 19 in., 15. Standard size, 12 in. by 27 in., 17 6. Large size, 14 in. by 29 in., 21.



The "Four Oaks" Undentable Angle Jointed Syringe, is available for syringing the undersides of leaves and branches which cannot be reached by the ordinary syringe. Is an Undentable Syringe, illustrated above, with the addition of an Angle Joint.

No. 4. Best quality, teak handle. Ladies' size, 14 in. by 16 in., 21. Standard size, 12 in. by 27 in., 27. Large size, 14 in. by 29 in., 32.
 No. 5. Good quality, rosewood handle. Ladies' size, 14 in. by 16 in., 20. Standard size, 12 in. by 27 in., 23 6. Large size, 14 in. by 29 in., 28.



The "Four Oaks" Undentable Spraying Syringe. The most useful Syringe, it is possible to have in a garden. Gives a fine vapour or mist-like spray. Invaluable for ordinary spraying, or for distributing Insecticides.

No. 9. 17 in. by 25 in., 12 6. 14 in. by 25 in., 16 6.
 Is fitted with quick-filling ball valve.



The "Four Oaks" Undentable Angle Jointed Spraying Syringe. This is the same Syringe as No. 6 illustrated above, but with the addition of an Angle Joint for spraying the undersides of leaves and branches. An invaluable Syringe.

No. 9 A J. 14 in. by 25 in., 18. 12 in. by 25 in., 22 6.

ANY OF THE ABOVE SYRINGES WILLINGLY SENT ON APPROVAL TO ANY GARDENER.

The "Four Oaks" Patent Knapsack Sprayer, No. 101 (British Made)

The Most Simple yet by far the best Knapsack Sprayer ever produced, and will last ten times as long as any other.

No rubber valves to perish or get out of order. All working parts outside.

The only Knapsack with force behind the spray.

We manufacture large Spraying Machines of every description. Send for Catalogue.

A Machine willingly sent on approval to any Gardener.

Manufactured only by the Inventors and Patentees:-

The "Four Oaks" Undentable Syringe & Spraying Machine Co.

Send for Catalogue of Syringes, Spraying Machines, and other Horticultural Specialities. All leading Irish Seedsmen and Nurserymen act as our Agents and supply our Specialities.



Suitable for Spraying Fruit Trees and Trees of all kinds, Hops, Vines, Coffee, Tea and Cocoa, also Potatoes and other crops.

PRICE 45/-

Complete with "Four Oaks" Patent Spraying Nozzle, also Swivel Nozzle and Short Brass Tube with Stop Cock and 3 feet Best India-rubber Tube. Will give very fine, medium, or coarse spray as desired. Double Swivel Nozzle, 4/- extra.

LONG TUBES FOR SPRAYING TALL TREES.

"Four Oaks" Patent Bamboo Lance, 10 ft. 6 in., with Interior Brass Tube, Stop-cock and Fittings - 17 6
 6 ft. 6 in. Do. - 12 6
 Strongly recommended.

SUTTON COLDFIELD, BIRMINGHAM, ENGLAND

ECKFORD'S GIANT SWEET PEAS

Why purchase Seed of inferior quality for your garden when by sending to Eckford at Wem the best can be obtained? The success of your garden depends upon the Seed supplied, and it therefore becomes a question of **QUALITY**—not quantity.

Every Seed sent out by me is carefully examined by hand; and brighter colours, larger flowers, and longer stems will be the result of growing Seed bought from Wem.

Villa (A) Collection.

50 very choice Varieties, suitable for villa garden, excellent Giant-flowered sorts, most suitable for cutting and exhibition, 25 seeds of each, 10/-

Villa (B) Collection.

24 splendid Varieties, suitable for exhibition, 50 seeds of each, 5/6

Villa (C) Collection.

12 splendid Varieties, suitable for exhibition, 50 seeds of each, 2/9

NOVELTIES FOR THE SEASON

Dodwell F. Browne (Waved).—A beautiful intense bright crimson, almost a self. 7 seeds, 6d.; 15 seeds, 1s.

Mrs. Charles Masters.—A bright rosy salmon standard, with almost pure cream wings, which are only slightly rose flushed. 7 seeds, 6d.; 15 seeds, 1s.

Apple Blossom (Waved).—As its name denotes, this is a beautiful flower of Apple Blossom colour. 20 seeds, 6d.; 40 seeds, 1s.

Queen Victoria (Waved).—Extremely large flowers, with a background of deep primrose, flushed with rose. 10 seeds, 6d.; 20 seeds, 1s.

Menie Christie (Waved).—The standard is an intense purple mauve, with wings of a somewhat lighter shade. 12 seeds, 6d.; 25 seeds, 1s.

Mid-Blue (Dobbie's).—A medium sized erect flower of deep sky blue, nearly a self. 10 seeds, 6d.; 20 seeds, 1s.

Saint George.—Bright fiery orange standards, wings slightly deeper than the standard. 7 seeds, 6d.; 15 seeds, 1s.

Mrs. Henry Bell (Waved).—A beautiful rich apricot ground, overlaid with a soft pink. 10 seeds, 6d.; 20 seeds, 1s.

SPECIAL NOVELTY OFFER

One full sized packet of each of the 8 Grand Novelty, post free, for 7s. 6d.

One full sized packet of each of the Novelty, and also the Villa (C) Collection, post free, for 9s. 6d.

One full sized packet of each of the Novelty, and also the Villa (B) Collection, post free, for 12s.

ECKFORD'S CULINARY PEAS

If you have never tried ECKFORD'S CULINARY PEAS do so this year; they are heavy croppers, and the flavour is right.

FREE. Send a post-card for Coloured Illustrated and full descriptive Catalogue. It is sent post free. Write to-day. A Booklet giving full particulars on the Culture of Sweet Peas given with every order.

HENRY ECKFORD, F.R.H.S., The Sweet Pea Specialist
WEM, Shropshire.

Department of Agriculture and Technical Instruction for Ireland

LIST OF THE DEPARTMENT'S LEAFLETS

No.	Name	No.	Name
1	The Warble Fly.	51	The Leather-Jacket Grub.
2	<i>Out of Print.</i>	52	Flax Experiments.
3	<i>Out of Print.</i>	53	The Construction of a Cowhouse.
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock Spraying	56	Cultivation of the Root Crop.
7	Fluke in Sheep.	57	Fruit Packing.
8	Timothy Meadows.	58	Sprouting Seed Potatoes.
9	The Turnip Fly.	59	Seed Testing Station for Ireland.
10	Wireworms.	60	The Packing of Butter.
11	Prevention of White Scour in Calves.	61	<i>Out of Print.</i>
12	<i>Out of Print.</i>	62	Plans for Creamery Buildings.
13	Contagious Abortion in Cattle.	63	"Redwater" or "Blood Murrain" in Cattle.
14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act, 1906, Regulations.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
17	The Use and Purchase of Manures.	67	Forestry: Trees for Poles and Timber.
18	Swine Fever.	68	Forestry: Trees for Shelter and Ornament.
19	Early Potato Growing.	69	The Prevention of Tuberculosis in Cattle.
20	Calf Rearing.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
21	Diseases of Poultry—Gapes.	71	Forestry: The Management of Plantations.
22	Basic Slag.	72	Forestry: Felling and Selling Timber.
23	Dishorning Calves.	73	The Planting and Management of Hedges.
24	Care and Treatment of Premium Bulls.	74	Some Common Parasites of the Sheep.
25	Fowl Cholera.	75	Barley Sowing.
26	Winter Fattening of Cattle.	76	American Gooseberry Mildew.
27	Breeding and Feeding of Pigs.	77	Scour and Wasting in Young Cattle.
28	Blackleg, Black Quarter, or Blue Quarter.	78	Home Buttermaking.
29	Flax Seed.	79	The Cultivation of Small Fruits
30	Poultry Parasites—Fleas, Mites, and Lice.	80	Catch Crops
31	Winter Egg Production.	81	Potato Culture on Small Farms.
32	Rearing and Fattening of Turkeys.	82	Cultivation of Main Crop Potatoes.
33	Profitable Breeds of Poultry.	83	Cultivation of Osiers.
34	The Revival of Tillage.	84	Ensilage.
35	The Liming of Land.	85	Some Injurious Orchard Insects.
36	Field Experiments—Barley.	86	Dirty Milk.
37	" " Meadow Hay.	87	Barley Threshing.
38	" " Potatoes.	88	The Home Bottling of Fruit.
39	" " Mangolds.	89	The Construction of Piggeries.
40	" " Oats.	90	The Advantages of Early Ploughing.
41	" " Turnips.	91	Black Scab in Potatoes.
42	Permanent Pasture Grasses.	92	Home Preservation of Eggs.
43	The Rearing and Management of Chickens.	93	Marketing of Wild Fruits.
44	"Husk" or "Hoos" in Calves.	94	Cost of Forest Planting.
45	Ringworm on Cattle.		
46	Haymaking.		
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
49	Poultry Fattening.		
50	Portable Poultry Houses.		

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped.

By Royal
Appointment



To H.M.
The King

Franco-British Exhibition, London,
International Horticultural Show, June, 1908.

The Only Gold Medal for Vegetables

WAS WON BY— **WEBB & SONS.**



THE ONLY
GOLD MEDAL FOR
VEGETABLES AWARDED
TO ANY FIRM OF SEEDSMEN,
FRENCH OR BRITISH, WAS WON BY
WEBB & SONS, THE KING'S SEEDSMEN,
WORDSLEY, STOURBRIDGE. (CATALOGUE
FREE.)

NOVELTIES FOR EXHIBITION AND TABLE USE.

Webbs' New Pioneer Pea (early)	per qt.	3	0	Webbs' Exhibition Cos Lettuce	per pkt.	0	6
Webbs' Stourbridge Marrow (second early)	per qt.	2	6	Webbs' Greatheart Cabbage Lettuce	..	0	6
Webbs' Senator Pea (main crop)	..	3	0	Webbs' New Epicure Melon	..	2	6
Webbs' Kinver Mammoth Broad Bean	..	2	6	Webbs' New Volunteer Beet	..	1	0
Webbs' Eclipse Runner Bean	..	3	0	Webbs' New Emperor Tomato	..	1	6
Webbs' Victoria Dwarf Bean	..	2	6	Webbs' New Champion Prize Leek	..	1	6
Webbs' Early Mammoth Cauliflower	per pkt.	1	6	Webbs' Silver Ball Turnip	per oz.	0	6
Webbs' New Prizewinner Carrot	per oz.	1	0	Webbs' Pink Perfection Celery	per pkt.	0	6
Webbs' Seld. Ailsa Craig Onion	per pkt.	1	6	Webbs' New Colonist Potato (early)	per peck	4	0
Webbs' Royal Favour Cucumber	..	1	6	Webbs' New Guardian Potato (second early)	per peck	3	6

For the best Vegetables and Flowers, see **WEBBS' SPRING CATALOGUE**, gratis and post free.

WEBB & SONS, WORDSLEY,
STOURBRIDGE

Seaside Shrubs.

In exposed situations Spring planting is often found most satisfactory: the growing season is in sight in February, and seaside planting may then be done with advantage. Some of the best shrubby evergreens for maritime planting are Escallonias, Brooms, Barberries, Euonymus, Choisya's, Oval-leaved Privet (green and golden), Laurustinus, Griselinia, Olearia, Thuypsis dolabrata, and Veronicas, whilst there are also numerous non-evergreens, such as Sea Buckthorn, Dogwood, Flowering Currant, Fuchsias, Hydrangeas, Golden Elder, Tamarisk, Buddleia globosa, Guelder Rose, Cotoneaster frigida, and others which do capitally near the sea and brighten up the more sombre evergreens with their respective flowers, variegated foliage or berries.

Amongst shelter trees for seaside growth Austrian Pines and Pinus insignis are specially recommended, also Evergreen Oak and Holly, Cupressus macrocarpa, Silver Fir, Mountain Ash, Lombardy Poplar, Beech, Sycamore, and White-thorns or the coloured varieties.

At the Nurseries of Messrs. WATSON & SONS, Clontarf, large quantities of shrubs and trees for maritime culture are grown, and the Messrs. Watson's experience in the matter of varieties suitable for various situations is at the disposal of intending planters. They attend personally to their clients' needs by correspondence or otherwise, and those requiring plants for the seaside might at least send a card for a catalogue or run out and see the stock at Clontarf, the Nurseries being but fifteen minutes' tram drive from Nelson's Pillar.

Societies.

Royal Horticultural Society of Ireland.

THE opening council meeting on January 14th was strong in attendance—graceful, if the term may be used, by the presence of the newly elected lady members, and practical in the way it went to work and disposed of the summer show schedule, and all but settled the winter programme. It was arranged that the council should hold its monthly meetings for 1909 on the second Friday of each month at 3.45 o'clock. Three shows are now arranged—viz., the spring show at Ballsbridge, April 21st and 22nd; summer show, place not yet fixed, July 20th; and the winter fruit show, October 20th and 21st, the rendezvous of which it is hoped may be as of yore. The full programme for 1909 will shortly be in the hands of members, and non-members contemplating competition can have some on application. The programme, we were told by one who had a private peep, "ought to please everybody," so we can only express the hope that private peeper's prophesy may be justified in going as far as it is possible to go in this sublimary sphere. If it does not it will not be for want of suggestions and consideration given to them. Apart from the glorification of Flora and Pomona it is now generally admitted that these peaceful contests have a position in the economic welfare of our island. Good vegetables we *must* have, say

Forest, Fruit & all other Trees
& Plants, Roses, Evergreens &c
Stocks quite unequalled. Catalogues post free.
Dickson's Nurseries Chester



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Boiler and Pipe Manufacturers,
STOURBRIDGE.

This "Apparatus" has obtained repute both in Large and Small Gardens.

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Manufacturers of
PLAIN AND ORNAMENTAL
SPOUTING,
HOT WATER PIPES,
BOILERS, PUMPS, LAMP
POSTS, VENTILATING
GEAR.

BOARD'S PATENT "WIRE TENSION" GREENHOUSES.
"AMATEUR"
Light and Elegant.



IRON FRAME.
**NO OUTSIDE
ROOF PAINTING.**
FLAT CLASS
NO DRIP

SPAN ROOF.
10 ft. x 8 ft. £12 10 0
12 ft. x 8 ft. 14 10 0
14 ft. x 8 ft. 16 10 0

LEAN TO.
10 ft. x 6 ft. £9 10 0
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14 ft. x 6 ft. 12 10 0
Carriage paid to Irish Ports.

SKINNER BOARD & CO., BRISTOL

DESTROY ALL GREENHOUSE AND GARDEN PESTS

BY USING

CLUBICIDE

Stands UNRIVALLED for the purification of Greenhouses and Greenhouse soil, and the DESTRUCTION of Fly, Bug, Scale, &c., and all ground vermin

Cross's Garden Fertiliser

Cross's Nicotine Vaporiser

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To be had from your Seedsman

Manufactured by

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Fruit Tree Growers

HOUNSLOW NURSERIES

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Fruit Trees a Speciality

Over half a million to select from



CATALOGUES FREE ON APPLICATION

INSPECTION INVITED

IMPORTANT TO GARDENERS and Fruit Growers.



“Niquas”

(Registered).

The most successful Non-poisonous Insecticide of the day.

ITS ADVANTAGES ARE—

Certain death to all Insect Pests. No possible injury to the most delicate Plant, Flower or Foliage. It is by far the cheapest Insecticide known. One pint makes ten to twelve gallons for Thrip, Black and Green Fly, &c, whilst RED SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by using “NIQUAS,” double or three times the strength required for Fly.

PRICES—Pint, 1/-; Quart, 1/9; Half Gallon, 3/-; Gallon, 5 - ; kegs, each Five Gallons, 22 6; Ten Gallons, 42 6.

Ask for Testimonials, of which some hundreds have been received.

SPECIMEN TESTIMONIAL.

FROM Mr. E. HUBBARD, Gardener to G. Hanbury, Esq.,

Blythwood, Buntingham, Bucks, May 15th, 1906.

“I have been using your “NIQUAS” insecticide for some years, and can with all confidence say it is the best I have ever used for Bng, Thrip, Red Spider, American Blight, and for all Insect Pests it has no equal. Also for the destruction of Margots in Marguerites by dipping.

“I have recommended it to my friends generally.”

LETHORION

Registered No. 62965.

IMPROVED METAL



(Registered Trade Mark.)

VAPOUR CONE

FOR FUMIGATING.

At Greatly Reduced Prices.

INTRODUCED 1885.

This well-known invention for the entire eradication of all pests infesting vegetation under glass is now manufactured in a more simple and reliable form. The small candle, which will be found packed with each cone, has only to be lighted, and placed on the ground in the centre of the Cone frame, to produce immediate results. Nothing on the market can equal it for efficacy and cheapness.

Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet, 1/- each. Cone No. 2, for a well-secured house of cubic 1,000 to 1,200 feet, 8d. each. Cone No. 1, Carbon, for frames of cubic 100 feet, 6d. each. Full directions accompany each Cone.

Ask for a List of Testimonials, of which some hundreds have been received from the leading gardeners in the Kingdom.

To be had from all Seedsman and Florists.

MANUFACTURED BY

CORRY & CO., LTD.,

At their Bonded Chemical Works,

SHAD THAMES, S.E.

Office & Show Rooms—13 & 15 Finsbury St., London, E.C.

flowers cannot be done without, whilst fruit becomes more and more a part and parcel of our "daily bread," so much so in fact that hardy fruits which can be produced in perfection at home are much more in demand than the home supply can cater for but does not cater for. It is, of course, good of our Colonial cousins to send us so much, but it ill becomes us to impose on good nature without an effort to help ourselves. This matter is merely mentioned as a suggestion to other powers that be professedly and undoubtedly interested in the subject to co-operate with the Royal Horticultural Society of Ireland, with even but a small measure of practical aid in the heavy expense entailed in running a good fruit exhibition. Secretaries of local and district horticultural associations are invited to obtain particulars of affiliation with the Royal Horticultural Society of Ireland, such affiliation carrying with it the Royal Horticultural Society (Ireland) medals, for awarding in their own particular arena of competition. At the above meeting specimen sprays of the showy orange-fruited *Solanum citinatum* came from Mrs. Symot, Junismore, Glenageary; this is a greenhouse annual worth having for its fine winter decorative effect. Members can have seeds of same and also of *Phoenician tenax* (see "Current Topics"), as well as a selected variety of the annual *Tagetes signata pumila*, by enclosing a stamped directed envelope to the secretary, who has still seeds of *Linum perenne* previously noticed in IRISH GARDENING, should any member be desirous of having this pretty perennial bush flax. Ten new members were elected on January 14th viz., as a life member, Lord Frederick

FitzGerald, Carton, Maynooth; as a practical life member (under the amended rule 4) Mr. Andrew Black, Carton Gardens, Maynooth; and as annual members, W. R. Maguire, Esq., J. P., Tower Hill Lodge, Dalkey; N. Hone, Esq., St. Delough's Park, Raheny; J. J. Rochford, Esq., 73 Haddington Road; D. McLeod, Esq., 14 Windsor Terrace, Kingstown; J. E. Geoghegan, Esq., B.A., Rockfield, Blackrock; T. K. Laidlaw, Esq., Luttrellstown, Clonsilla; Captain Connolly, Castletown, Celbridge; and Mr. T. Cave, Danum Gardens, Rathgar.

CLARE HORTICULTURAL SOCIETY.—We have received a copy of the above society's schedule for 1909, which contains a comprehensive range of classes designed to meet the needs of all classes of horticulturists. Hitherto, this society's operations have been practically confined to the county of Clare, but on this occasion, owing to the generosity of that go-a-head firm Jones, of Kilkenny—a valuable challenge cup is being offered by the society, open to the counties of Galway, Clare, Limerick, Tipperary and Kerry, and horticulturists in these counties would do well to apply to the secretary for a copy of the schedule, in which they will find several classes of great interest and value, amongst others being Sydenham's for 9 bunches of sweet peas and W. Bill's for 10 sprays of violas. Practically all classes are open to horticulturists in above radius, and the society's arrangement on page 32 of schedule makes exhibiting simplicity itself, as it does away with the necessity of incurring heavy railway charges for show-boards, plates and vases. The date of the show is 28th July, and the secretary Mr. H. Bill, Lifford, Ennis, Co. Clare.



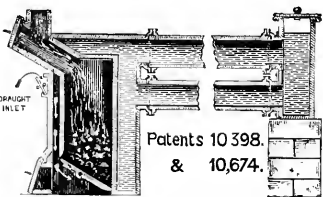
The Boiler for Amateurs

KINNELL'S SILVER MEDAL "HORSE-SHOE."

Will burn from 10 to 20 hours. Over 20,000 in use.

Awarded 2 Gold Medals by Botanical Society.

CHEAPEST BECAUSE BEST . . .



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M. Saunders & Sons

Beg to call attention to their unsurpassed and extensive collection of

General Nursery Stock

including Fruit Trees of all kinds, clean and well rooted; Roses of all classes, thousands to select from; Avenue Trees of all kinds; Conifers, a magnificent collection; Evergreen and Deciduous Flowering Shrubs in endless variety; Forest Trees, several acres of all sizes. Inspection invited

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SPECIAL
NOTICE**SWEET PEAS**FOR
1909.

IF YOU WANT

REALLY GOOD SWEET PEAS

AT MODERATE PRICES, send to

ROBERT SYDENHAM, LIMITED, TENBY STREET, BIRMINGHAM.

No Flowers give so much cut bloom at so little cost and trouble as Sweet Peas.

SPECIAL COLLECTIONS FOR 1909.

For fuller descriptions of the varieties mentioned in this list and all other known varieties, we refer our friends to the little book "ALL ABOUT SWEET PEAS," revised and corrected to end of 1908. Price 6d.

The seeds in these Collections are all carefully hand-picked; only plump, round seeds sent; all small, poor, or doubtful ones are taken out, which we do not think is done by anyone else in the trade; eighty to ninety per cent. guaranteed to germinate if treated as instructions sent with each collection.

EACH PACKET in Nos. 1, 2 and 3, CONTAINS 50 SELECTED SEEDS.

Buyers not wanting any collection complete may select their own varieties from EITHER COLLECTION at prices mentioned, and have 2s. 6d. worth for each 2s.

COLLECTION No. 1 TWELVE USEFUL VARIETIES, 1s. *Coccinea*, dark carmine scarlet; *Dainty*, white, with slight pink edge; *Dorothy Eckford*, white; *Evelyn Byatt*, orange and crimson border; *Henry Eckford*, orange-scarlet; *Hon. Mrs. Kenyon*, pale primrose; *Miss Willmott*, salmon-red; *Mrs. A. Watkins* or *Clady's Unwin*, waved pink; *Navy Blue*, deep violet blue; *Prince of Wales*, rich rosy crimson; *Romello Piazzani*, rich blue; *Salopian*, deep mulberry red.**COLLECTION No. 2 TWELVE GOOD VARIETIES, 1s.** *A. J. Cook*, pale lavender purple; *Black Knight*, bronzy blue-lavender; *Countess Spencer*, large wavy pink; *Duke of Westminster*, rosy violet; *Herbert Smith*, orange and crimson border; *King Edward VII.*, rich crimson; *Lady Crisel Hamilton*, pale lavender; *Mrs. Collier*, pale primrose; *Mrs. Unwin*, waved white; *Queen of Spain*, salmon-pink; *Sybil Eckford*, creamy buff, flushed pale pink; *Triumph*, rosy salmon and blush.

SINGLE PACKETS OF ANY VARIETY IN COLLECTIONS Nos. 1 and 2, 2d. each.

COLLECTIONS Nos. 1 and 2, when bought together, will be 2s. 6d. and a packet of "Millie Maslin" and "John Ingman" Seedlings will be added free of charge.

COLLECTION No. 3. THE TWELVE BEST VARIETIES, 2s. *Clara Curtis*, str. Primrose Spencer, waved primrose; *Etta Dyke*, str. White Spencer, waved white; *Frank Dolby*, waved lavender, see Fig. 4; *George Herbert*, waved carmine and rose; *Helen Lewis*, waved orange and rose, see Fig. 6; *Helen Pierce*, marbled blue; *Jeanne Gordon*, carmine and buff; *Lord Nelson*, dark blue; *Mrs. Hardcastle Sykes*, waved bluish pink, see Fig. 1; *Mrs. Walter Wright*, rich rosy mauve; *Paradise*, rich pink, the best of the *Countess Spencer* type; *Queen Alexandra*, the best crimson scarlet.

SINGLE PACKETS OF ANY VARIETY IN COLLECTION No. 3, 3d. each. COLLECTIONS Nos. 2 and 3 may be had together for 3s., and a Packet of "Phenomenal" and "Agnes Eckford" will be added free of charge.

SPECIAL PRICE FOR THE THREE COLLECTIONS, 4/-

and when bought together, the four added packets and a packet each of the four best striped varieties, viz.:

Jessie Cuthbertson, *Mrs. J. Chamberlain*, *Marbled Blue* or *Hester* and *Unique*,

will be added free of charge, making 11 of the very best varieties in cultivation, at an average cost of about one penny a packet.

PRICE OF EITHER OF THE EIGHT ADDED VARIETIES, IF WANTED ALONE, 2d. EACH.

COLLECTION No. 4 THE TWELVE NEWEST VARIETIES, 4s., or what we consider the Best of the Newest. SPECIAL NOTICE. The number of seeds in each packet in Collection No. 4 varies. The number is stated in black figures after each name, and where the packets can be sold separately the price is stated as well. There are about two thousand packets of these priced varieties apart from what is anticipated will be sold in the collections. When these are sold orders can only be taken for the full collection, which is put at a specially low figure. Any variety not priced cannot be sold apart from the collection.Apple Blossom Spencer (20), rosy pink and blush, waved, 6d.; *Audrey Crier* (10), bright rosy pink, waved; *Evelyn Hemus* (15), waved primrose, with purple edge of pink, 6d., see Fig. 5; *Jet* (50), the darkest of all Sweet Peas, 3d.; *Mother of Pearl (Aldersey)* (25), a beautiful silvery lavender, slightly hooded and sweetly scented, 4d.; *Mrs. Routzahn Spencer* (10), the gem for 1909, a buff or pale primrose ground shaded with salmon pink, a much improved *Mrs. Henry Bell*, 6d.; *Paradise Carmine* (15), a large waved, carmine and rose; *Queen Victoria Spencer* (10), a waved deep primrose, slightly shaded pale rose; *Saint George* (15), a grand orange scarlet, 1s., see Fig. 3; *Sutton's Queen* (25), a buff ground *Countess Spencer*, 4d.; *The King* (12), a fine waved form of *King Edward VII.*, see Fig. 5; *The Marquis* (12), large waved rosy mauve.

COLLECTIONS Nos. 3 and 4 may be had together for 6s. and a packet of the New White Everlasting Pea, WHITE PEARL, 2s. seeds, added free of charge.

SPECIAL PRICE FOR THE FOUR COLLECTIONS, 7/-

which, with the nine added varieties, will be 57 in all, and making it the best collection, considering the varieties, ever offered for the money.

A few packets of Mr. Hugh Aldersey's celebrated SYEIRA LEE (20 Seeds) 1s.; sold as not quite fixed.

Mr. Malcolm's MRS. A. MALCOLM (25 Seeds), 1s.; (10 Seeds), 6d.; CNRISSE UNWIN (20 Seeds), 6d.; JOHN INGMAN (50 Seeds), 3d.; re-elected, but not guaranteed as quite fixed. ROSIE SYDENHAM (20 Seeds), 4d.; not quite fixed; also ROMANI RAUNI (Aldersey) (20 seeds), 1s., sold as not quite fixed.

CHOICE MIXED SEEDS of most of the above, and other varieties, 2d. per packet of about 100 seeds; 6d. per ounce of about 350 to 400 seeds; 1s. 6d. per lb., or 5s. per lb. of about 5,000 to 5,500 seeds.

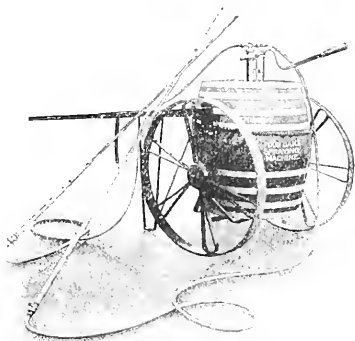
ALL OTHER SEEDS EQUALLY CHEAP AND GOOD. FULL LIST POST FREE ON APPLICATION.

PLEASE MENTION THIS PAPER.

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A New Spraying Machine.

SPRAYING is now recognised as an essential to successful fruit culture. All the year round precautions must be taken to "head off" the invading



hosts of insect and fungal enemies of our orchard and garden crops. At the present season caustic spraying against the foes hibernating on the resting wood or lurk-

ing in cracks of the bark should now be in full swing. We have given full directions as to the preparation of the different kinds of killing fluids, but powder and shot are of little avail unless we have effective instruments of projection. The chief points of a good machine are—(1) Nozzles that give a very fine spray; (2) an effective agitator to secure continuous fluidity and so prevent clogging; (3) a powerful force pump to project the fluid; (4) simplicity and durability of structure.

A new type of machine has been constructed and placed on the market by the Four Oaks Machine Company that claims to fulfil these among other requirements, and through the courtesy of the makers we are enabled to give an illustration of one of their types—the "Westwick Park" pattern—a British-made machine, suitable for orchards or large plantations where the ordinary knapsack-sprayer is not so convenient. The illustration hardly requires description. The wheels are three feet high and four inches broad, and very easy to wheel about either by hand or by use of a pony. Readers interested in spraying are recommended to write to the firm for a copy of their catalogue. The address is—Sutton Coldfield, Birmingham.

Catalogues.

EDMONDSON BROS., DUBLIN. Descriptive list of select vegetables and flower seeds, seed potatoes, garden tools, insecticides and sundries. A booklet of 75 pages, carefully compiled, clearly printed and well illustrated.

TELEPHONE 17. TELEGRAMS: "PURITY, DUBLIN."

BENTLEY'S CONCENTRATED ALKALI

A most valuable Winter Wash, extensively used in the largest orchards throughout the country upon Fruit Trees and Bush Fruits with most satisfactory results

1 to 5 tins, 1s. 3d.; 8 tins, 1s. 2d.; 12 tins, 1s. 1d.;
20 tins, 11d.; 40 tins, 10d. each.

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A non-poisonous Insecticide with pleasant delicate odour for Orchids and general use under glass

6 galls., 7s. 6d.; 3 galls., 8s. per gal.; 1 gall., 9s.;
½ gall., 5s.

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Specially prepared for top-dressing. The richest manure manufactured

1 ton, £15; 10 cwt., £7 15s.; 5 cwt., £4 2s. 6d.;
1 cwt., 17s.; ½ cwt., 9s. 6d.; tins, 3s. each.

Carriage paid on 7s. 6d. orders and upwards.

Write for Descriptive Catalogue of Horticultural Specialities and Sundries.

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JOSEPH BENTLEY, Ltd.

Chemical Works

BARROW-ON-HUMBER

HULL

McKENZIE'S Giant Sweet Peas

All the newest and best large-flowered and delicately scented varieties.

McKenzie's Collection of 12 vars., 100 seeds each, 1 g.

" " 24 " " " 3/-

Choice Mixtures of the newest harmonising colours, pint, 2/6; oz., 4d.

Giant Mixed, pint, 2/-; oz., 3d. All Post Free.

SALVA FRUTA.—For Spraying Fruit Trees in Winter, in tins, 1 lb. at 8½d.; 2 lb. at 8d.; 4 lb. at 7½d.; 10 lb. at 7d. per lb.

*Our Vans deliver in
City and Suburbs daily.*

Thomas McKenzie & Sons, Ltd.,
212 Gt. Brunswick St.,
Dublin.

A New Departure

Most people are at one time or another inconvenienced by the presence of Rats or Mice, or perhaps both, in their houses, stores, stables, gardens, barns, or elsewhere. All these people will, we have no doubt, be glad to know that even greater improvements have been made within the last few weeks in dealing with these loathsome and dangerous vermin. It has always been a drawback to the various Rat and Mouse Viruses that the necessary preparations for their use were so troublesome to many users. The well-known "Liverpool" Virus is now being sent out by the Liverpool Institute of Comparative Pathology in a new form, which is quite ready for use. This improvement should be very much appreciated, for there is no doubt that the former efficiency of the Virus was in many cases impaired, while being got ready for use. The "Liverpool" Virus in its new form retains all the distinctive properties which have made this preparation famous. It has now been in general use for upwards of five years, and no case of injury to human beings has occurred from its use; while it may safely be said to have destroyed millions of Rats and Mice. Many testimonials have been received, and the large yearly increases in sales have, to a great extent, been caused by satisfied users recommending the Virus to their friends. The new form of "Liverpool" Virus for Rats is put up in tins at 2s. 6d. each, post free 2s. 9d.; and for Mice in tins at 1s. 6d. each, post free 1s. 8d. The 8s. size (old style) remains as before, and for the present is only supplied in tubes. These large tubes hold six times as much as the 2s. 6d. size, and are, of course, the most economical for use where there are many Rats or a large area to be treated. Fresh supplies can always be had from Mr. D. M. WATSON, Pharmaceutical Chemist, 61 South Great George's Street, Dublin, who will be glad to give any further information required.

WINTER SPRAYING OF FRUIT TREES

to remove Lichen, &c. . . .

CAUSTIC SODA, 98 per cent.
PEARL ASH, 75/80 "
PURE SOFT SOAP.

And all ingredients for Woburn
and other Winter Washes
at lowest Cash Prices. . . .

SPRAYING AND FUMIGATING MATERIALS OF ALL KINDS

D. M. WATSON, Horticultural Chemist

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TELEPHONE 1971

the half tone photographic reproductions being particularly clean and clear. All the requirements of a well-equipped garden are here listed, even to special storks, clothes and frames for "French Gardening."

LITTLE AND BALLANTYNE, GARDEN SEEDS.—A comprehensive illustrated catalogue of vegetable and flower seeds from the well-known Carlisle House.

MACKEY'S GARDEN MANUAL is a well-arranged brightly-illustrated booklet extending to 76 pages, including vegetables, flowers and garden sundries. Specialities are apparently made of collections of seeds at various prices to suit all sizes of gardens and all depths of purse. A good deal of information is given in brief, terse language, which will be appreciated by amateurs.

WM. FELL & CO.'S (HEXHAM) SEED LIST is a very pleasing catalogue with beautiful illustrations on almost every one of its 52 pages. It includes vegetables and flowers. The flower section is conveniently tabulated, showing at a glance the varieties, colour, height, time of flowering, duration and remarks.

PERRY'S LISTS OF HARDY PLANTS.—A batch of catalogues and leaflets from the hardy plant farm, Enfield, including rock plants, Japanese lilies, montbretias, and new and rare plants. Gardeners requiring uncommon specimens of hardy plants should consult these lists.

SPECIAL CATALOGUE (Mrs. Gardner, Stroud).—This is a descriptive catalogue of "hardy, alpine, herbaceous, bulbous, greenhouse and border plants."

apparently compiled for the special use of amateurs. It contains a mass of information. Mrs. Gardner also sends in the "Priory Portfolio," containing twelve large page illustrations, being reproductions of photographs taken from her garden. They are very striking—one, "Brugmansia in the garden," being especially so. A large number of loose illustrated sheets and folders dealing with individual plants is also included in the parcel received.

SUPPLEMENTARY CATALOGUE AND DIARY (Joseph Bentley, Ltd., Hull).—A large, square diary made up of good paper, interleafed with thick blotting paper and bound in boards. The catalogue portion is attractively printed, and includes descriptions of insecticides, weed-killers, special manures and sundry other things required in gardening establishments, prepared by this reputable firm of manufacturing chemists.

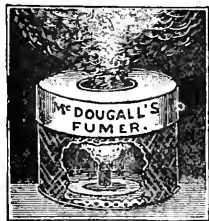
WALSH'S SEEDS (Portadown) is an attractive catalogue of vegetable and flower seeds, garden implements and requisites. It is illustrated, and contains useful hints as to culture, that will be appreciated by amateurs. Potatoes and lawn seeds are also included. Collections of vegetable and flower seeds for various sized gardens seem to be a feature in the trade of this house.

McKENZIE'S 1909 CATALOGUE.—A very convenient sized, copiously illustrated reference list of seeds, roots, shrubs and trees, lawn mowers, garden tools, and apparently everything likely to be wanted in a country house, from a watering can to houses for motor cars. Such a comprehensive catalogue ought surely to have

LOOK HERE !

DO you want beautiful trees for your Rock Garden, Villa Garden, or Cottage Garden? We make collections suitable for such purposes. Cheap, good, hardy, well-grown thrifty trees, shrubs, or climbers. Any information gladly given on receipt of particulars of garden. Say kind of soil, and if any rockery. Catalogues free from **THE STANCLIFFE ESTATES CO., Ltd.,** Nurserymen, Darley Dale, Derbyshire.

FUMIGATE WITH



Mc. DOUGALL'S "FUMER"

NO SPIRIT OR LIQUID POISON.
READY FOR USE. CHEAP & HANDY.

SPECIAL CHEAP COLLECTIONS

From very selected Nursery Stock, viz. :—
6 Apple Trees, 6 Gooseberry Bushes, 12 Raspberries, 4 Rhubarb, 20 Strawberries, all for 7/6; half for 4/- Larger Collections proportionally cheaper. Also a large stock of Rhubarb, Grand Stools, 3/- and 5/- per doz.; 20/- and 30/- per 100. Forest Trees, Hedging Plants, Ornamental Shrubs, all healthy, clean, transplanted.

Prices very moderate. Lists Free

W. HAMMOND, Paulbeg Nurseries, Shillelagh

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ALL CROPS REQUIRE POTASH.—

Especially Potatoes, Roots, Flax, Grass
Clovers, Peas, Beans and Onions

The best way to supply Potash for Crops is to supply Kainit in Winter, or Muriate of Potash, or Sulphate of Potash, in Spring or at seed time to the soil

Leaflets and Pamphlets may be had on application to—

GEORGE RYCE, MANAGER
AGRICULTURAL OFFICES

15 Parliament Street, and
50 Essex Street, DUBLIN

Potash Manures may be had from all Manure Dealers

an index to the ten thousand and one items listed within its 150 pages.

ROBERTSON'S GARDEN SEEDS (Dublin) is a beautifully illustrated booklet of 60 pages, enclosed in a very tasteful wrapper, comprising vegetables, flowers, garden tools, and sundries. Cultural notes in many cases and full descriptions in the case of new and rarer plants are given.

RITCHIE'S SEEDS FOR 1000 (Belfast) is a large page catalogue, copiously illustrated with photographic reproductions. It includes vegetables and flowers, the latter including, of course, sweet peas. Our northern readers should secure a copy.

JONES' SELECTED SEEDS is a compact little catalogue issued by the Kilkenny nurseryman so well known as an enthusiastic gardener and exhibitor. In addition to vegetable and flower seeds, the catalogue contains lists of appliances for bee-keepers, garden tools and sundries. Sweet peas are specialised, as might be expected, and exhibitors will be interested in his lists of collections. The two silver cups offered for competition by Mr. Jones are noted on another page. The catalogue is neatly printed in blue and enclosed in a tasteful brown cover, and, as we are glad to note, printed in Ireland, and by a Wexford firm.

POWER'S SEEDS (Waterford) is a large catalogue, clearly arranged and lavishly supplied with illustrations. It includes the "season's novelties" in vegetable and flower seeds, and a most interesting page on Herbs (p. 23), giving their properties and uses—an excellent idea. Descriptions of interesting plants and cultural directions for all the big groups are also given.

Tuberous Begonias

A GREAT SPECIALITY
AWARDED 18 GOLD MEDALS

Seed saved from our Choice Exhibition Plants

Double, 2s. 6d. and 5s.; Single and Crested Single, 1s., 2s. 6d. and 5s. per packet. Also Frilled Single, a most beautiful novelty, 1s., 2s. 6d. and 5s. per packet.

Splendid Large Tubers for Pot Culture or Bedding

Doubles, in separate colours, 30s., 12s. 6d. and 4s. per dozen; in mixed colours, 3s. per dozen. Splendid for bedding.

Singles, in separate colours, 15s. 8s. and 3s. per dozen; in mixed colours, 2s. 6d. per dozen. Splendid for bedding.

For Named Varieties see Illustrated List, post free

OTHER SPECIALITIES—

Border Carnations (a fine sample dozen for 5s.), Perpetual-Flowering Carnations, Cyclamen, Polyanthus, Pansies and Violets, 12 Choice Perpetual-Flowering Carnations, in pots, 6s.

BLACKMORE & LANGDON

Twerton Hill Nursery, BATH

The Native Apples of Ireland!

We wish your many readers would take up the "gathering" into their gardens once more the apples of our grand-parents. There are over 20 excellent sorts offered this year in HARTLAND'S List, a copy of which can be had on application. The sorts are such as our W. B. H. knew to exist in his grandfather's Nursery at Mallow, Co. Cork, 70 years since.

Wm. Baylor Hartland & Son,
Ard Cairn Nursery and Bulb Grounds,
CORK.

200 Highest Awards: Gold Medals from all the Principal Exhibitions.

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Supplied in Tins and Bags, 6d. to 20s. Carriage paid on quantities of 25 lbs. and upwards.



FAME'S FERTILISER.
Swift, Safe, and Sure.

Supplied in Tins and Bags, 6d. to 20s. Carriage paid on quantities of 25 lbs. and upwards.

May be obtained from the principal Nurserymen, Seedmen, Florists and Chemists, or DIRECT only—

The Sole Proprietors and Manufacturers,
WM. COLCHESTER & CO.,
IPSWICH, England.

GIANT-FLOWERED SWEET PEAS

Each Packet will contain 40 Seeds.

COLLECTION A, Price 1s., Post Free.—Dorothy Eckford, white; Enchantress, light pink waved; Dora Breadmore, buff; Jessie Cuthbertson, rose flake; Coccinea, cerise; Black Michael, maroon; Hon. Mrs. Kenyon, primrose; Gladys Unwin, pink waved; Miss Willmott, salmon pink; King Edward VII., crimson; Mrs. W. Wright, mauve; D. R. Williamson, lavender-blue.

COLLECTION B, Price 2s., Post Free.—Nora Unwin, white waved; Mrs. A. Watkins, pale pink waved; Henry Eckford, salmon; Queen Alexandra, scarlet; Helen Pierce, veined blue; Lady Grisel Hamilton, lavender; Mrs. Collier, yellow; Queen of Spain, pearl pink; Countess Spencer, large, pink frilled; Lord Nelson, deep blue; Horace Wright, violet-blue; Black Knight, maroon.

SPECIAL OFFER.—One packet of each above 24 varieties with one packet (10 seeds) 1009 Novelty, King Edward Spencer, 3s., Post Free.

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The Lincolnshire Seed Establishment, SPALDING.

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ROYAL NURSERIES,
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RICHARD SANKEY & SON
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"Bulwell Potteries," NOTTINGHAM

Grand Second-Early Potato

"THE COLLEEN"
 (WILLIAMSON'S)

"AWARD OF MERIT," Royal Horticultural
 Society of England, 1907. FIRST IN
 TRIALS OF NOVELTIES by the National
 Potato Society, 1907. FIRST PRIZE, Royal
 Dublin Society's Winter Show, 1908 . . .

ILLUSTRATED PAMPHLETS FREE

J. F. WILLIAMSON, F.R.H.S.
 Seed Potato Specialist, MALLOW, Co. Cork

THE HEAD-QUARTERS FOR —

FLOWERING and . . .
ORNAMENTAL SHRUBS

Including—

BERBERIS, 60 kinds	PYRUS, 60 kinds
DEUTZIAS, 24 kinds	MACNOLIA, 30 kinds
PHILADELPHUS, 34 kinds	HYDRANCEA, 26 kinds
SPIRÆA, 56 kinds	COTONEASTER, 30 kinds
RIBES, 30 kinds	CEANOTHUS, 20 kinds

Etc., Etc.

is **DAISY HILL NURSERY, NEWRY**

— SEND FOR LIST —

Salva-Fruta.

FOR SPRAYING FRUIT TREES IN WINTER.

All Fruit Trees should be treated
 with this preparation. It effectively
 . destroys every vestige of .
 MOSS, LICHEN, AND GREEN SLIME
 . as well as the eggs of .
 MOTHS, APHIDES, RED SPIDER, &c.

Salva-Fruta is a Powder, and
 is easily dissolved in cold water.
 It is put up in canisters of
 1 lb., 2 lbs., 4 lbs., and 10 lbs. each.

Full Directions and Prices can be
 obtained from the Manufacturers,

The United Alkali Co., Ltd.,
 GREENBANK WORKS,
 ST. HELENS, LANCASHIRE.

Or from all the principal Seedsmen in the United Kingdom.

'EUREKA' WEED KILLER.

SAVES WEARY WEEDING.



POWDER.

1	100 lbs. 100 gals. solution
19	25 "
6	10 "

Free Tins and Cases.

LIQUID. 1/- 50.

1	2	100 lbs. 100 gals. solution
1	3 6	25 "
1	6 6	10 "
1	14	5 "
1	25 6	2 1/2 "

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EUREKA—Insecticide, Lawns, Sand, Hellebore Powder, Birdlime Mixture, Worm Killer, Hayward's Summer Shade, &c.

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FIG. 1

Silver Medal Royal Horticultural Society.

HYPHENES OF TESTIMONIALS—*The Field* says, "As good as anything that could be devised."

Mr. TROP, Head Gardener to H.M. THE KING, Balmoral Castle writes, "The boots supplied two years ago, are as good as ever."

Illustrated Price List from the Makers—

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Simplest! Strongest! Most Economical!

Soles of Best English-made Leather Waterproofed with Motor Tyre Rubber Studs or Solid Rubber. Fig. 1 can be refitted repeatedly, equal to New Boots. Rubber Soles strongly recommended.



FIG. 2

AURICULAS

Show and Alpine, in pots, all true to name, 12/- doz.

200 LOGANBERRY TREES

Cross between Raspberry and Blackberry, a great cropper. Strong trees, five feet long, which should be planted this Spring. Fruiting trees, 9/- doz.

200 AGAWAM BLACKBERRIES

The size of a mulberry, also a great cropper and ready to plant. Fruiting trees, 9/- doz.

30 distinct varieties of Prize Border Carnations and Picotees, 6/- doz. List on Application.

A. W. P. PIKE, F.R.H.S. LLANISHEN GLAMORGAN

The PARAGON PEA TRAINER

PATENT.

(CONSISTS OF light Iron Frames of special construction, with lines of training wire stretched between, supported at intervals by Intermediate Standards. No trouble, always ready, and will last for years with only a few-pence outlay for any necessary renewal of training wire. Mule 4 ft., 5 ft. and 6 ft. high.

Extracts from some of latest testimonials:—
"The Pea Trainers, in my opinion, could not be improved; they are perfect in every way. The Poles can be removed from the plants without difficulty, and the whole can be taken down and removed at about 100 lbs. of time."
"I can thoroughly recommend your Pea trainer, and I trust that this fresh Irish industry will, in the next 2 years, meet with the property its invention merits."

"I am quite satisfied with your Paragon Trainers, and use nothing but them."
—JAMES.

Try our new Trainers for Runner Beans and Raspberries.

Write for Price List



Supplied through Seedsmen and Ironmongers, or direct from—

The Paragon Pea Trainer Co.,
Bridge St., Banbridge,
Co. Down.

IRISH GROWN ROSES, FRUIT and FOREST TREES

Over 1,000,000 to select from

JAMES WALSH
Nurseryman & Seedsman, PORTADOWN

Shrubs and Ornamental Trees

All hardy, well-grown . . . and frequently transplanted

ROSES—The finest in cultivation, from 7s. per doz. (my selection); customers' selection extra

APPLE TREES—Fruiting Trees from 8s. per doz.; Maidens, 6s. per doz.

Currants and Gooseberries from 2s. per doz.

Write at once for **DESCRIPTIVE CATALOGUES** Free on Application

APRONATUS PONICUS.

What's this! A New Plant? No!

A NEW APRON!

Designed by a Gardener for Gardeners. LOOK AT THE PRICE.

In Dark Blue "Ponicus" Twill, 1/9 Postage 3d. extra.



Or in Dark Blue "Ponicus" Serge of Ever-lasting Wear, 3/9 Postage 3d. extra.

Registered.

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ALEX. DICKSON & SONS, Ltd., 61 Dawson Street.
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Improved BEATRICE
GREENHOUSE BOILERS.

Complete Apparatus from 75s.



A modern success. Great improvement over old-type boilers. The "Beatrice" makes greenhouse work a pleasure. One stoking for the day, one stoking for the night. Even draught, even temperature. Guaranteed double the sale of any other boiler. To intending purchasers—

List Post Free.

Easy Payments Arranged.

JAS. CHEW & CO.,

Brookhouse Iron Works,

BLACKBURN, LANCS.

WEEDS DESTROYED GRASS INVIGORATED
ON
LAWNS, TENNIS COURTS, GOLF, BOWLING GREENS & BY
"CLIMAX" LAWN SAND
THE BEST DRESSING FOR WEEDY OR IMPOVERISHED LAWNS. TRY IT NOW.
Sample tins 1s., 2s., and 3s. 6d.; 67 1/2 lb. tins 10s. square yards. 6s. cartage paid.
Write for our Catalogue of Garden Helps.
BOUNDARY CHEMICAL CO. LTD. CRANMER ST. LIVERPOOL.

Vegetable, Flower, and Farm Seeds
From the Finest Stocks and Strains in Cultivation.
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Telegrams—"THOMPSON, SEEDSMAN, CORK."

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Private Residences, &c., Dublin and County.

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Linewashers, Whiteners, and
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DISHER'S Cleaning and Disinfecting Composition will clean and disinfect
your House, Shop, and Office throughout (without soap). **3s. 6d.**
Gallon Can delivered.

SLUGS, WIREWORM & C
DESTROYED & PLANTS INVIGORATED
By a Dressing of "ALPHOL." A valuable Manure which destroys insect pests in the soil without injury to the plants. Try it now. 28 lbs. will dress 250 square yards, 7 lbs., 2/6; 14 lbs., 3/6; 56 lbs., 8/6; 1 cwt., 15/-. Every enquiry welcome.
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JONES & BAYLISS LTD
FOR ALL KINDS OF
IRON FENCING
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THE SENSATION OF LAST WINTER.

Our Celebrated **"G. Brand"** Grained Clogs

(Lined with TANNED FEEL throughout),
Are still on the Market, and the sale is enormous.
TRY THEM AT ONCE.

Keenest price known. Only **3/6** Postage paid right to your door.

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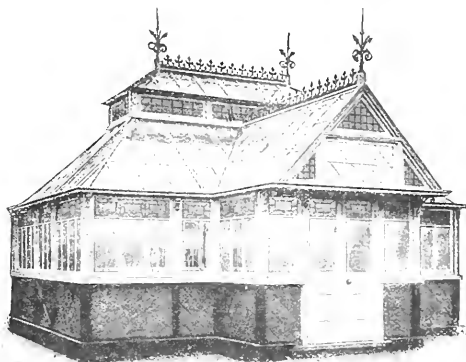
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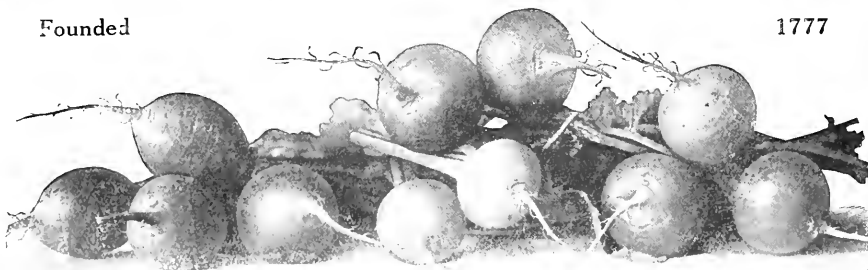
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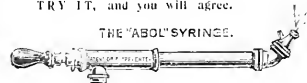
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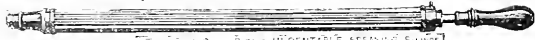
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Why purchase Seed of inferior quality for your garden when by sending to Eckford at Wem the best can be obtained? The success of your garden depends upon the Seed supplied, and it therefore becomes a question of QUALITY—not quantity.

Every Seed sent out by me is carefully examined by hand; and brighter colours, larger flowers, and longer stems will be the result of growing Seed bought from Wem.

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50 very choice Varieties, suitable for villa garden, excellent Giant-flowered sorts, most suitable for cutting and exhibition, 25 seeds of each, - 10/-

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24 splendid Varieties, suitable for exhibition, 20 seeds of each, 5/6

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Dodwell F. Browne (Waved).—A beautiful intense bright crimson, almost a self. 7 seeds, 6d.; 15 seeds, 1s.

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Mrs. Henry Bell (Waved).—A beautiful rich apricot ground, overlaid with a soft pink. 10 seeds, 6d.; 20 seeds, 1s.

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WEM, Shropshire.

Department of Agriculture and Technical Instruction for Ireland

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N.	Name	N.	Name
1	The Warble Fly.	51	The Leather-Jacket Grub.
2	<i>Out of Print.</i>	52	Flax Experiments.
3	<i>Out of Print.</i>	53	The Construction of a Cowhouse.
4	<i>Out of Print.</i>	54	Calf Meal.
5	<i>Out of Print.</i>	55	The Apple.
6	Charlock Spraying	59	Cultivation of the Root Crop.
7	Fluke in Sheep.	57	Fruit Packing.
8	Timothy Meadows.	58	Sprouting Seed Potatoes.
9	The Turnip Fly.	59	Seed Testing Station for Ireland.
10	Wireworms.	60	The Packing of Butter.
11	Prevention of White Scour in Calves.	61	<i>Out of Print.</i>
12	<i>Out of Print.</i>	62	Plans for Creamery Buildings.
13	Contagious Abortion in Cattle.	63	"Redwater" or "Blood Murrain" in Cattle.
14	Prevention of Potato Blight.	64	Varieties of Fruit suitable for cultivation in Ireland.
15	Fertilizers and Feeding Stuffs Act, 1906, Regulations.	65	Forestry: The Planting of Waste Lands.
16	Sheep Scab.	66	Forestry: The Proper Method of Planting Forest Trees.
17	The Use and Purchase of Manures.	67	Forestry: Trees for Poles and Timber.
18	Swine Fever.	68	Forestry: Trees for Shelter and Ornament.
19	Early Potato Growing.	69	The Prevention of Tuberculosis in Cattle.
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23	Dishorning Calves.	73	The Planting and Management of Hedges.
24	Care and Treatment of Premium Bulls.	74	Some Common Parasites of the Sheep.
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26	Winter Fattening of Cattle.	76	American Gooseberry Mildew.
27	Breeding and Feeding of Pigs.	77	Scour and Wasting in Young Cattle.
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29	Flax Seed.	79	The Cultivation of Small Fruits
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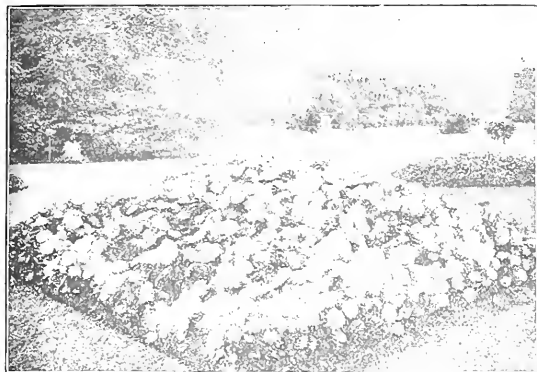
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Appointment



To H.M.
The King

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Mixed colors, 6d. & 1s. per pkt.



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Seaside Shrubs.

In exposed situations Spring planting is often found most satisfactory; the growing season is now in sight, and seaside planting may be done with advantage. Some of the best shrubby evergreens for maritime planting are Escallonia, Brooms, Barberries, Enonymus, Choisya, Oval-leaved Privet (green and golden), Laurustium, Griselinia, Olearia, Thuypsis dolabrata, and Veronias, whilst there are also numerous non-evergreens, such as Sea Buckthorn, Dogwood, Flowering Currant, Fuchsias, Hydrangeas, Golden Elder, Tamarisk, Buddleia globosa, Guelder Rose, Cotoneaster frigida, and others which do capitally near the sea and brighten up the more sombre evergreens with their respective flowers, variegated foliage or berries.

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At the Nurseries of Messrs. WATSON & SONS, Clontarf, large quantities of shrubs and trees for maritime culture are grown, and the Messrs. WATSON'S experience in the matter of varieties suitable for various situations is at the disposal of intending planters. They attend personally to their clients' needs by correspondence or otherwise, and those requiring plants for the seaside might at least send a card for a catalogue or run out and see the stock at Clontarf, the Nurseries being but fifteen minutes' tram drive from Nelson's Pillar.

Royal Horticultural Society of Ireland.

THE monthly meeting of the council was held at the Society's offices, 5 Molesworth Street, Dublin, on Friday, February 12th, the following members being present: viz., Messrs. F. W. Moore, Ernest Bewley, Robt. Anderson, J. L. McKellar, J. Wyllie-Henderson, D. Houston, Jas. McDonough, Mrs. Greer, Lady Abrieda Bourke, Mr. G. M. Ross presided. The winter show schedule, as finally revised by the schedule committee, with added suggestions made by several members of the council, was approved of and passed, thus completing the programme for the year. Lord Frederick FitzGerald, on behalf of the Duke of Leinster, presented portraits of Charles William, 4th Duke, and Gerald, 5th Duke, who had both been presidents of the society, and arrangements were made that the same should be framed and hung in the company of a fine portrait of Augustus Frederick, 3rd Duke, already in possession of the society, and of which the latter nobleman was for many years also its president. Twenty-two new members were elected, these being B. H. Barton, Esq., Straffan House, Straffan; Lord Barrymore, Fota Island, Queenstown; Sir Algernon Coote, Bart., Mountrath, Queen's County; Lt.-Col. Tottenham, D.L., Ballycurry, Ashford, Wicklow; The Hon. Lady McAlmont, Mount Juliet, Thomastown, Kilkenny; Major Eustace Loder, Eyrefield Lodge, Curragh Camp; Mr. A. Dryden, The Gardens, Mount Juliet; The Countess of Bessborough, Bessborough, Pilltown, Kilkenny; Lady Eva Wyndham Quin, 5 Seymour

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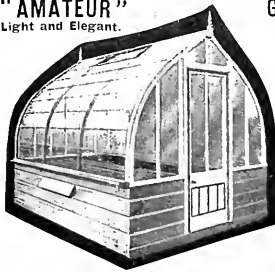
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The most successful Non-poisonous Insecticide of the day.

ITS ADVANTAGES ARE—

Certain death to all Insect Pests.

No possible injury to the most delicate Plant, Flower or Foliage. It is by far the cheapest Insecticide known. One pint makes ten to twelve gallons for Thrip, Black and Green Fly, &c. whilst RED SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by using "NIQUAS," double or three times the strength required for Fly.

PRICES—Pint, 1/-; Quart, 1/9; Half-Gallon, 3/-; Gallon, 5 -/-; Kegs, each Five Gallons, 22/6; Ten Gallons, 42/6.

Ask for Testimonials, of which some hundreds have been received.

SPECIMEN TESTIMONIAL.

From Mr. F. HUBBARD, Gardener to G. Hanbury, Esq.,

Blythwood, Burnham, Bucks, May 15th, 1906.

"I have been using your "NIQUAS" Insecticide for some years, and can with all confidence say it is the best I have ever used for Bug, Thrip, Red Spider, American Blight, and for all Insect Pests it has no equal. Also for the destruction of Maggots in Marguerites by dipping.

"I have recommended it to my friends generally."

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INTRODUCED 1885.

This well-known invention for the entire eradication of all pests infesting vegetation under glass is now manufactured in a more simple and reliable form. The small candle, which will be found packed with each cone, has only to be lighted, and placed on the ground in the centre of the Cone Frame, to produce immediate results. Nothing on the market can equal it for efficacy and cheapness.

Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet, 1/- each. Cone No. 2, for a well-secured house of cubic 1,000 to 1,200 feet, 8d. each. Cone No. 1, Carbon, for frames of cubic 100 feet, 6d. each. Full directions accompany each Cone.

Ask for a List of Testimonials, of which some hundreds have been received from the leading gardeners in the Kingdom.

To be had from all Seedsman and Florists.

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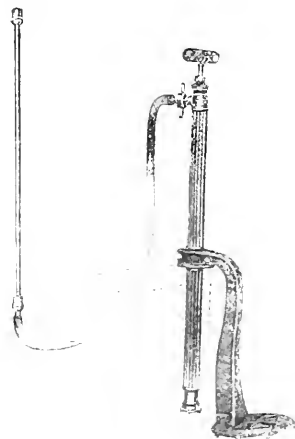
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Street, Portman Square, London; Mrs. W. H. Montgomery, Ravensdale, Leixlip; Mr. Alex. Reid, The Gardens, Crom Castle; Mrs. Lawder, Mount Temple, Blackrock; Mrs. Kelly, Moutrose, Donnybrook; Col. Hackett, Brooklawn, Palmerston; Spotswoode Bowles, Esq., Aghern, Conna, Co. Cork; Wm. M. Murphy, Esq., Darry House, Upper Rathlincs; Mrs. McVeagh, Drewstown, Kells, Meath; Messrs. Reamsbottom & Co., Alderborough Nurseries, Geashill; Mr. P. Brook, Orchard Terrace, Enniskillen; Mr. Chas. Macon, 11 Claremont Road, Sandymount; Mr. Jas. Frizell, The Curragh Grange Gardens; and Mrs. John McCann, Simonscourt Castle, Donnybrook.

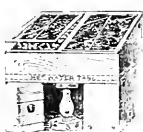
The Spraying and Syringing of Plants.

In last month's issue of this journal we had the pleasure of illustrating and describing a new spraying machine for fruit orchards placed upon the market by the "Four Oaks" Undentable Syringe and Spraying Machine Co., of Sutton Coldfield. Since then, we are not surprised to learn, the Department of Agriculture and Technical Instruction for Ireland have, after testing this firm's "Four Oaks" knapsack sprayer, adopted it as one of their patterns, and placed orders for four of the machines for their instructors in Ireland. We also understand that the firm's "Four Oaks" undentable syringes are in use regularly at the Botanical Gardens, Glasnevin. We now wish to call attention to another entirely distinct kind of sprayer made by the

same firm. It is called the "Four Oaks" undentable spraying pump No. 301. It is a most handy foot pump



which can be used in a bucket or other suitable vessel, and will be found invaluable for syringing or spraying roses, chrysanthemums, or in fact any kind of



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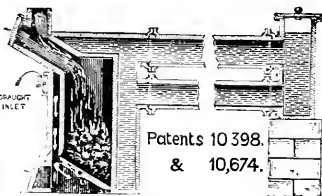
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SPECIAL COLLECTIONS FOR 1909.

For fuller descriptions of the varieties mentioned in this list and all other known varieties, we refer our friends to the little book "ALL ABOUT SWEET PEAS," revised and corrected to end of 1908. Price 6d.

The seeds in these Collections are all carefully hand-picked; only plump, round seeds sent; all small, poor, or doubtful ones are taken out, which we do not think is done by anyone else in the trade; eighty to ninety per cent. guaranteed to germinate if treated as instructions sent with each collection.

EACH PACKET in Nos. 1, 2 and 3, CONTAINS 50 SELECTED SEEDS.

Buyers not wanting any collection complete may select their own varieties from EITHER COLLECTION at prices mentioned, and have 2s. 6d. worth for each 2s.

COLLECTION No. 1 TWELVE USEFUL VARIETIES, 13. Coccinea, dark carmine and red; Banty, white with slight pink edge; Dorothy Eckford, white; Evelyn Byatt, orange and crimson and red; Henry Eckford, orange scarlet; Hon. Mrs. Kenyon, pale primrose; Miss Willmott, salmon-red; Mrs. A. Watkins or Clady Unwin, waved pink; Navy Blue, deep violet blue; Prince of Wales, rich rosy crimson; Romolo Piazzani, rich blue; Salopian, deep mulberry red.**COLLECTION No. 2 TWELVE GOOD VARIETIES, 19.** A. J. Cook, pale lavender purple; Black Knight, bronzy blue and crimson; Countess Spencer, orange-wavy pink; Duke of Westminster, best violet; Herbert Smith, orange and crimson and red; King Edward VII., rich crimson; Lady Crisel Hamilton, pale lavender; Mrs. Collier, pale primrose; Nora Unwin, waved white; Queen of Spain, salmon-pink; Sybil Eckford, creamy buff, flushed pale pink; Triumph, rosy salmon and blush.

SINGLE PACKETS OF ANY VARIETY IN COLLECTIONS Nos. 1 and 2, 2d. each.

COLLECTIONS Nos. 1 and 2, when bought together, will be 2/6, and a packet of "Millie Maslin" and "John Ingman" Seedlings will be added free of charge.

COLLECTION No. 3. THE TWELVE BEST VARIETIES, 2. Clara Curtis, sylv. Primrose Spencer, waved primrose; Etta Dwyke, sylv. White Spencer, waved white; Frank Oolby, waved lavender; see Fig. 1; George Herbert, waved carmine and rose; Helen Lewis, waved orange and rose; see Fig. 6; Helen Pierce, marbled blue; Jeannie Gordon, carmine and buff; Lord Nelson, dark blue; Mrs. Hardcastle Sykes, waved bluish pink; see Fig. 4; Mrs. Walter Wright, rich rosy mauve; Paradise, rich pink; the best of the Countess Spencer type; Queen Alexandra, the best crimson scarlet.

SINGLE PACKETS OF ANY VARIETY IN COLLECTION No. 3, 3d. each. COLLECTIONS Nos. 2 and 3 may be had together for 3/-, and a Packet of "Phenomenal" and "Agnes Eckford" will be added free of charge.

SPECIAL PRICE FOR THE THREE COLLECTIONS, 4/-

and when bought together, the four added packets and a packet each of the four best striped varieties, viz.:—

Jessie Cuthbertson, Mrs. J. Chamberlain, Marbled Blue or Nester and Unique,

will be added free of charge, making 11 of the very best varieties in cultivation, at an average cost of about one penny a packet.

PRICE OF EITHER OF THE EIGHT ADDED VARIETIES, IF WANTED ALONE, 2d. EACH.

COLLECTION No. 4 THE TWELVE NEWEST VARIETIES, 4s., or what we consider the Best of the Newest. SPECIAL NOTICE. The number of seeds in each packet in Collection No. 4 varies. The number is stated in black figures after each name, and where the packets can be sold separately the price is stated as well. There are about two thousand packets of these priced varieties apart from what is anticipated will be sold in the collections. When these are sold orders can only be taken for the full collection, which is put at a specially low figure. Any variety not priced cannot be sold apart from the collection.

Apple Blossom Spencer (20), rosy pink and blush, waved, 6d.; Audrey Drier (10), bright rosy pink, waved; Evelyn Hemus (15), waved primrose, with pinstripe edge of pink, 6d.; see Fig. 5; Jet (50), the darkest of all Sweet Peas, 3d.; Mother of Pearl (Aldersey) (20), a beautiful silvery lavender, slightly hooded and sweetly scented, 4d.; Mrs. Rutzahn Spencer (10), the gem for 1909, a buff or pale primrose ground shaded with salmon pink, a much improved Mrs. Henry Bell, 6d.; Paradise Carmine (15), a large waved, carmine and rose; Queen Victoria Spencer (10), a waved deep primrose, slightly shaded pale rose; Saint George (15), a grand orange scarlet, 1s.; see Fig. 7; Sutton's Queen (25), a buff ground; Countess Spencer, 4d.; The King (12), a fine waved form of King Edward VII., see Fig. 3; The Marquis (12), large waved rosy mauve.

COLLECTIONS Nos. 3 and 4 may be had together for 5/- and a packet of the New White Everlasting Pea, WHITE PEARL 25 seeds, added free of charge.

SPECIAL PRICE FOR THE FOUR COLLECTIONS, 7/-;

which, with the nine added varieties, will be 57 in all, and making it the best collection, considering the varieties, ever offered for the money.

A few packets of Mr. Hugh Aldersey's celebrated SYEIRA LEE (20 Seeds) 1s.; sold as not quite fixed.

Mr. Malcolm's MRS. A. MALCOLM (25 Seeds), 1s.; (10 Seeds), 6d.; CHRISTIE UNWIN (20 Seeds), 6d.; JOHN INGMAN (50 Seeds), 3d.; re-selected, but not guaranteed as quite fixed. ROSIE SYDENHAM (20 Seeds), 4d.; not quite fixed; also ROMANI RAUNI (Aldersey) (20 seeds), 1s., sold as not quite fixed.

CHOICE MIXED SEEDS of most of the above, and other varieties, 2d. per packet of about 100 seeds; 6d. per ounce of about 350 to 400 seeds; 1s. 6d. per lb., or 5s. per lb. of about 5,000 to 5,500 seeds.

ALL OTHER SEEDS EQUALLY CHEAP AND GOOD. FULL LIST POST FREE ON APPLICATION.

PLEASE MENTION THIS PAPER.

plants either in garden or greenhouse. It is also quite suitable for spraying fruit trees in small gardens where there is not sufficient work for a large machine. The saving in time and labour as compared with the use of a syringe is immense, and we should think it would save its cost (£55) in a very short time. It can also be used for lime-washing. A tool like this should find a place in every garden, large or small. The working parts are all brass, and the body of the pump is encased in a corrugated or fluted covering similar to the well-known "Four Oaks" syringes.

Shows.

MIDLAND COUNTIES HORTICULTURAL AND HOME INDUSTRIES ASSOCIATION. The prize schedule issued in connection with the annual show at Athlone is now being circulated. The show will be held on Thursday, 16th of August, and entries close on the 31st of July. The general arrangements seem to be exceptionally well organised. There are local committees appointed and collecting depots established throughout the two home counties of the show, and exhibits sent to these depots will be forwarded free to the show grounds. Free cartage of exhibits from Athlone Railway Station is also provided. Numbers of competitions will be held on the show day, including wheel-spinning, domestic science, demonstration plots, best fed donkey, &c. There are four sections, with 230 classes, each class having 1st, 2nd and 3rd prizes, in addition to which there are challenge cups, medals, and 118 special and guaranteed prizes. The

entry fees range from a penny in section 1 to one shilling in section 4. Section 4 is open to "all Ireland," and includes vegetables, fruit, flowers, honey, poultry, butter, cooking, preserves, needle-work, lace, wood work and sheep. The association has also arranged for a children's show in June. From what we have said it will be seen that Athlone makes a strong bid for the premier position among shows in Ireland, and the management is to be heartily congratulated upon the result of their labours.

ATHLONE.—This show, daffodil and home industries will be held on Wednesday, the 14th of April (entries close April 1st). It is very clear that the cult of the daffodil is gaining in popularity, and we are delighted to find a comparatively small society encouraging the cultivation of these charming spring flowers with such spirit and enthusiasm. Section 1 is open to all (trade excepted), section 2 to amateurs, section 3 to cottagers. In addition to daffodils there are numerous classes for other spring flowers.

MUNSTER AGRICULTURAL SOCIETY. In the schedule of the spring show of this society we have further evidence of the growing popularity of daffodils. The show will be held in Cork Park on the 30th and 31st of March, and arrangements have been made for holding, in addition to the agricultural exhibits, a violet and daffodil show. There are ten classes for daffodils and seven for violets. In connection with the latter there is a silver cup offered for competition.

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A Word on Wood-Fencing.

THERE has been considerable discussion recently as to the economic value of the various wood preserving fluids which are on the market, and likely users are naturally anxious to be sure that these preparations really prolong the life of exposed timber in fences, &c. The following information should, therefore, be useful. Most men who use fir, pine and pitch pine in an untreated state find these woods to have a very short life in the ordinary soil, and that they are practically rotted through (just below the soil level) in about two years. The same wood treated with two coats of Wood Preservative laid on with a brush has lasted for six years, and is still in good condition. Fencing treated above ground may be kept in excellent condition for any number of years by occasional treatment. Some fencing at Blackheath, which had at first received a coating of tar, was found for some time to be rotting rapidly. Holes were bored in the posts a few inches above soil level, and filled with wood preserving fluid, and refilled for three or four times. The original coating of tar had practically disappeared, and the whole surface was given one coat of wood preserving fluid with a brush. This fencing has had occasional treatment since, and although erected in 1880 it is still in good condition, although partly rotted through when first treated eight years ago. This record for a soft wood fence seems excellent *æt.*, a life of ten years without repairs, although not treated until two years after erection. These experiments were made with the fluid which is now being sent out by Mr. D. M. WATSON, Agricultural Chemist, 61 Sth. Gt. George's Street, Dublin, who will be glad to quote for large and small quantities, and to send a descriptive leaflet. It would appear advisable to use the fluid on all kinds of wood-work which is exposed to moisture so as to prevent rot and decay.



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THE PERPETUAL FLOWERING CARNATION SOCIETY.

The annual report and schedule of prizes of this society's sixth show is just issued. The show will be held in London on Wednesday, 24th of March, inst. There is a generous prize list, including a challenge cup, medals, plate and other special prizes. In looking over the list of members we can only find one out of the whole of Ireland. Copies of the report can be obtained from the hon. sec., Mr. Hayward Mathias, Lucerne, Stubbington, Fareham, Hants.

Catalogues.

HARTLAND'S FLOWER AND VEGETABLE SEEDS is our illustrated catalogue of garden seeds supplied from the Ard Cairn Nurseries. It includes Irish-grown potatoes for "seed," seeds of greenhouse plants, hardy perennials, &c.

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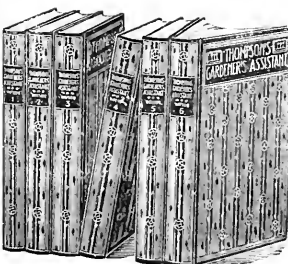
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About 25,000 $\frac{1}{2}$ -Standards for sale this season.
 Every Tree winter-washed, carefully pruned, trans-
 — planted, and splendidly rooted. —

SPECIAL OFFER of 6,000 4 and 5 year $\frac{1}{2}$ -Standards, extra strong,
 big heads, fruiting trees. Apples, Pears and Plums in best
 sorts. Lists on application. 18, 20 - dozen. Worth double.

TRAINED APPLES, PEARS, PLUMS and CHERRIES.

Over 3,000 for sale. Magnificent Stuff.

2 - , 2 6, 3 6 to 5 - each. Trade supplied.

None but the most popular and best varieties offered in each Section.
 I cordially invite inspection of my stock. All I offer are growing
 in my Nurseries.

FOREST TREES, SHRUBS, HEDGING PLANTS, &c.,
 in large quantities.

SPECIMEN TRANSPLANTED SHRUBS a great speciality.

Lists Free. Correspondence Invited.

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From a Photo of one of my 3-year-old trees growing
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 Telegrams: "JONES, GOWRAN."

By Royal Warrant
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Manufacturers of
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The Best in the World

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Possess
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Hand-Power and "Horse and Pony" Machines in all kinds
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Motor Lawn Mowers.

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Breadmore's

Sweet Peas

Winchester Hants.

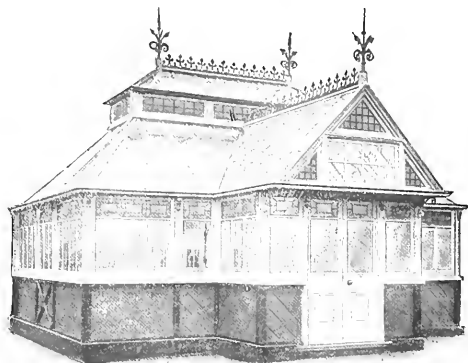


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Then Grow his Garden
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RESULT LARGER CROPS.
 MORE PRIZES.

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Ornamental Iron and Wire Hurdles
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 SPRAYING MACHINES

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Royal Horticultural Society of Ireland

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Wednesday and Thursday, 21st & 22nd April



Challenge Cups and Cash Prizes to more than the value of £100 are offered in competition in numerous classes to suit all exhibitors. Prospective exhibitors (who are not Members) can have the full programme for the year, embracing THREE GREAT SHOWS, on application to the Secretary at the Society's Offices, 5 MOLESWORTH STREET, DUBLIN, and at the principal Seed Establishments through the City. Entries close 15th April

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A Magnificent Autumn-Flowering Strain

In Mixture, per dozen, 1s. 9d. ; per 100, 12s. 6d.

Or in Separate Shades as below.

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Brilliant Reds and Scarlets of Shades in Mixture	per doz.	1 9
Amaranth-red Shades	..	1 9
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THOMSON'S Vine, Plant, and Vegetable MANURE.

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FOR VINES,
TOMATOES,
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FRUIT BEARING
PLANTS,
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The result of
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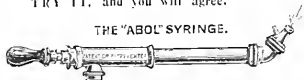
ABOLISHES
Green and Black Fly,
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For Garden and Greenhouse Use.
TRY IT and you will agree. "It acts like a
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REMEDY for MILDEW.
½-Pt., 1 - Pt., 1 6. Qt., 2 6. ½-Gall., 4 - Gall., 7 6.

"ABOL" SYRINGE
Best Sprayer.

Does more and better work than
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Price:- Syringes, 8 6 to 14 6. Postage, 4d. Bends, 1 6 extra.
Of all Seedsmen, Florists and Ironmongers, or on receipt
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SOLE MANUFACTURERS—E. A. WHITE, Ltd.,
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Selected Vegetable Seeds

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Seed Potatoes Specially selected
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Carlton SWEET PEA Fertilizer

The Superintendent of the National Sweet Pea Society's Trials
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"The plants were 1 ft. 2 in. and the flowers were 2 in. finer than with
any other special manure. I have attempted with these flowers."

FOR HEAVY OR FOR LIGHT SOILS.

Bags - 8 - 5 - 2 - Carriage Paid.

Sufficient for 150 yds. 75 yds. 37 ½ yds. Sweet Pea Row.

Also in 1 - tins 14 post free, and 6d. tins 8d. post free.)

OBTAINABLE FROM ALL SEEDSMEN, OR FROM

WALTER VOSS & CO., Ltd.
MILLWALL, LONDON, E.

RHODODENDRONS

**CRIMSON, WHITE, PINK, 250 choice-
named varieties,** fine foliage, well budded
for potting or planting. 1 to 1½ ft. - 1½ to 2-2 to
2½ - 2½ to 3-3 to 4-4 to 5-5 to 6-6 to 7. List
of sorts and prices on application. Many
thousands to offer. Standards in all sizes. All
home-grown. Inspection invited.

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A GREAT SPECIALITY
AWARDED 18 GOLD MEDALS

Seed saved from our Choice Exhibition Plants
Double, 2s. 6d. and 3s.; **Single and Crested Single**, 1s., 2s., 6d. and 5s. per packet. Also **Friiled Single**, a most beautiful novelty, 1s., 2s., 6d. and 5s. per packet.

Splendid Large Tubers for Pot Culture or Bedding
Doubles, in separate colours, 3 s., 12s. 6d. and 4s. per dozen; in mixed colours, 3s. per dozen. Splendid for bedding.

Singles, in separate colours, 1s., 8s. and 3s. per dozen; in mixed colours, 2s. 6d. per dozen. Splendid for bedding.

For Named Varieties see Illustrated Lists, post free

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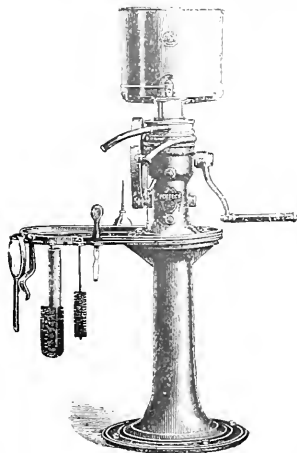
Border Carnations (a fine sample dozen for 5s.), **Perpetual - Flowering Carnations**, **Cyclamen**, **Polyanthus**, **Pansies** and **Violets**, 12 Choice Perpetual Flowering Carnations, in pots, 6s.

BLACKMORE & LANGDON

Twerton Hill Nursery, BATH

The "Perfect" Separator

PATENT KNUDSEN



Skims cold milk clean, and is self-balancing

Highest Award at Franco-British Exhibition London, 1908

Never beaten in Open Competition

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(Please mention this paper when writing)

BURMEISTER & WAIN, Ltd.

105 Middle Abbey Street, DUBLIN

FOR
LAWN MOWERS
REPAIRS Irish, British, and American Makes—
A
SPECIALITY

AND
PLEASURE
GROUND ESPALIERS
ROLLERS & TOOLS
ARCHES & PERGOLAS
REVOLVING
SUMMER HOUSES
CHEAP SECTIONAL
GREENHOUSES and FRAMES

KENNAN & SONS, Ltd.

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(Near Christchurch Cathedral.)

ROWAN'S BEGONIAS

SPECIAL OFFER OF DRY TUBERS

A specially selected strain of strong sturdy habit, with large, upright, well-formed flowers, in selected pure colours. We strongly recommend them to our customers. They are specially suited for pot culture. All bulbs are of full flowering size, measuring not less than 1 1/4 to 1 1/2 inches in diameter

	Per Dozen	6
Single Whites, pure	3	0
Single Crimson, very dazzling	3	6
Single Yellows, pure	3	0
Single Roses, fine reds	3	0
Single Orange, deep orange shades	3	0
SINGLE MIXED, all colours	2	6
Double Whites, pure	5	6
Double Crimson, extra fine	5	0
Double Yellows, pure shade	5	0
Double Roses, fine	5	6
Double Orange, and copper shades	5	0
DOUBLE MIXED, all colours	4	6

This strain of Single and Double Begonias is strongly recommended with confidence as being a good selection from a very large crop, and must not be confounded with the poor seedling rubbish offered at cheap rates. Every bulb is of full flowering size, and the strain is quite suitable for exhibition purposes.

M. ROWAN & Co.

Seed, Bulb & Plant Merchants, Corn & Malt Brokers
51 & 52 Capel St., DUBLIN

Telegrams—"ROWAN," Dublin

Telephone—672

WOBURN TOBACCO EXTRACT

A Nicotine Insecticide

Having a **guaranteed strength of not less than 7.5 per cent. One pound makes ten gallons of Wash.**

The full extent to which the Woburn Tobacco Extract may be used has not yet been measured, but from a glance at the following uses as an Insecticide an idea may be obtained of its worth.

This preparation is the outcome of experiments carried out by Mr. Spencer Pickering, F.R.S., of the Woburn Experimental Fruit Farm, originally in his search for a destroyer of the Apple Sucker (*Psylla Malii*), for which he found it ideal, but in experiments with it it has been found to be an Insecticide of wide application.

In his Tenth Report Mr. Pickering, after relating several negative results with other insecticides, says:

"The remaining experiments were devoted to the examination of the action of Nicotine. The solution used was that prepared by Messrs. Voss & Co., containing 7.5 per cent. of Nicotine, and in the first set of experiments Nos. 7-9 it was used in three different states of dilution, namely with 50, 75 and 100 volumes of water added to it, the Nicotine being, therefore, 0.15, 0.113 and 0.075 per cent. respectively.

"The recent experiments with a solution of this strength, and also with stronger ones (Nos. 7-9) entirely confirm the former conclusions as to the efficacy of such treatment, the mortality caused with the two weaker solutions being at least 95 per cent., and with the strongest solution (0.15 per cent., all but 1.0 per cent., only five or six living psyllæ being in this case found in some 500 or 600 buds examined.

"These experiments also afforded satisfactory evidence that moderate rain does not interfere seriously with the results. In Nos. 8 and 9 the spraying was done at noon, and moderate rain, amounting to 0.1 inch, fell from 6 to 7 p.m. on the same day, yet the mortality caused was 95 per cent.

"These sprayings were made 10 days before the blossoms opened. From these experiments it is evident that the Nicotine treatment, applied either shortly before or during the blossoming of the trees, is quite effectual in destroying psyllæ so long as it does not contain less than 0.075 per cent. of Nicotine."

In the book (recently published) written by Mr. Pickering and Professor Theobald, called "Fruit Trees and their Enemies," this Insecticide is recommended for the destruction of the following:—

Leaf Curling Apple Aphid: Green fly (*Aphis Pomi*).

Spraying before the leaves curl, preferably about the end of April.

The Blossom and Leaf Aphid: (*Aphis fitchii*).

Spray about the middle of April.

Apple Sucker (*Psylla Malii*).

Spray either before or during the blossoming. If much rain falls afterwards, the spraying should be repeated. It has been found that moderate rain does not interfere seriously with the results.)

Cherry Aphid (*Myzus Cerasi*).

Cherry and Pear Sawfly: Slugworm (*Ericopania Linnæana*).

Currant Aphides (*Rhopalosiphum Ribis* and *Myzus Ribosidis*).

Hop Damson Aphid (*Phorodon Humuli*).

THE WOBURN TOBACCO EXTRACT was used extensively last year (1908), and, in addition to its uses as mentioned above, growers have found it to be effectual for:

American Blight, Woolly Aphid

Cuckoo Spit

Spring Tails

White Mites which attack

Mushrooms

and many varieties of caterpillars.

It is necessary to use it at double strength, viz: one part in fifty of water for these pests.

PRICE—10 lb. Tins, 13s.; 1 lb. Bottles, 1s. 6d. (packages free).

Sole Manufacturers—

WALTER VOSS & Co., Ltd.,
Millwall, LONDON, E.

A NEW DISCOVERY

Woburn Bordeaux Paste

A Concentrated form of Bordeaux Mixture, and an Improvement on the old style of the ready-made powder or the freshly made, as prepared by the user.

The unsatisfactory character and action of these powders, which are sold as substitutes for Bordeaux Mixture, is universally acknowledged; indeed, it is impossible to dry Bordeaux Mixture without altering its chemical and physical properties, and such dried preparations are not Bordeaux Mixture at all. The making of the fresh mixture presents, however, many difficulties to the grower, and if it could be obtained in some concentrated form which would work really satisfactorily, a great boon would be conferred on all fruit growers. This we have lately succeeded in effecting through the assistance of Mr. Spencer Pickering, Director of the Woburn Experimental Fruit Farm, to whom we submitted the question.

The concentrated Bordeaux Mixture, which we are making according to his instructions, is sold in the form of a thin paste, which mixes easily and perfectly with water, reproducing a mixture which is not similar to but absolutely identical chemically with freshly made Bordeaux Mixture, and indeed is much better than it physically, for it contains no cross-particles of lime to clog the spray nozzles. Moreover, it is more effective as a fungicide than the Bordeaux Mixture made in the ordinary way, and begins to act at once on application, which ordinary Bordeaux Mixture does not.

With reference to the strength of the Paste, Mr. Pickering writes as follows:—

"WORKERS EXPERIMENTAL FRUIT FARM,

"March 10, 1909.

"In answer to your enquiries, the relative efficiency of what is known as the Woburn Bordeaux Mixture, which you are now putting on the market in the form of a paste, was given in our report as 2½ times as great as that of the ordinary Bordeaux Mixture, made by mixing equal weights of copper sulphate and lime. This ratio was based on a consideration of the nature of the main reaction occurring when the substances are exposed to air, but it was impossible without direct trials to ascertain how far these reactions proceeded, or to what extent secondary reactions modified the results. An examination of these reactions has now been made, and I am not altogether surprised to find that the relative efficiency of the Woburn Bordeaux Paste is much greater than had been previously stated. My results show that 1 lb. of copper sulphate in the form of the Woburn Bordeaux Paste is equivalent to from 9 to 14 lbs. of copper sulphate in the form of the freshly made ordinary Bordeaux Mixture (the exact equivalent depending on the conditions under which it is made) or to at least 8 lbs. of sulphate (probably much more) when in the form of dried Bordeaux Mixture."

Based on the foregoing we can safely say that growers will save at least 25 per cent. by using **Woburn Bordeaux Paste**, to say nothing of the saving in labour and trouble in making their own Bordeaux Mixture, and the fact that the fungicide is more prompt in its action and more easy of application.

15 lbs. of **Woburn Bordeaux Paste** mixed with 100 gallons of water makes a Bordeaux Mixture equivalent to the very strongest used in this country which contains 16 lbs. of copper sulphate to 100 gallons. Many growers prefer to use mixtures of only half this strength, so as to minimise the scorching which often accompanies the use of any form of Bordeaux Mixture. It is best to mix the paste with about its own bulk of water, and then add the rest of the water. The paste will keep good for an indefinite length of time, but should not be stored in vessels of iron, tin, or zinc, and it should not be allowed to get frozen, or it will require a tedious amount of stirring to bring it back to its original condition.

WOBURN BORDEAUX PASTE is the best remedy for:

Potato Disease (*Phytophthora infestans*).—Use 1 lb. to 7 gallons of water (15 lbs. to 100 gallons) as sufficient for an acre). The first spraying should be done at the end of June, and again three weeks later, or if only one spraying is given it should take place about the middle of July. Early blight (leaf curl, which comes in dry seasons when the plant is only a few inches high, should be treated in the same way.

Brown Rot of Fruit (*Nectria Tenebricosa*).—Use 1 lb. to 25 gallons of water (4 lbs. to 100 gallons), spraying at intervals when the leaf buds are expanding.

Peach Leaf Curl (*Erosaria deformans*).—Use 1 lb. to 7 gallons of water (15 lbs. to 100 gallons) as a preventive, by spraying when the buds show signs of swelling and again in ten days' time. Afterwards use only at half strength.

Apple and Pear Scab (*Fusicladium dendriticum*, *F. perniciosa*). Use 1 lb. to 12½ gallons of water (8 lbs. to 100 gallons). Apply when the leaf buds are opening, and a second spraying as soon as the petals have fallen.

Prices and particulars of packages on application.

(Please state if Trade Grower.)

Sole Manufacturers—

WALTER VOSS & Co., Ltd.
Millwall, LONDON, E.

THE "FOUR OAKS" SYRINGES

are acknowledged by all users to be

THE BEST SYRINGES THE WORLD HAS EVER SEEN.

Now in use in all the leading Gardens and Nurseries everywhere.
Send for samples and you will afterwards use no other make.

THE "UNDENTABLE" PATTERNS ARE GUARANTEED AGAINST INDENTATION OF WORKING BARREL FOR THREE YEARS.



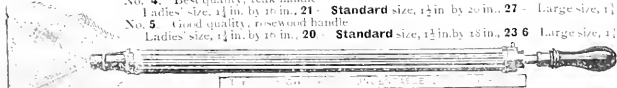
The "Four Oaks" Undentable Syringe. The Gardener's Ideal Syringe, complete with Jet as illustrated, also fine and coarse roses.
No. 1. Best quality, with teak handle Ladies' size, $1\frac{1}{2}$ in. by 16 in., 16 Standard size, $1\frac{1}{2}$ in. by 20 in., 21 Large size, $1\frac{1}{2}$ in. by 20 in., 25
No. 2. Good quality, with rosewood handle .. $1\frac{1}{2}$ in. by 16 in., 15 .. $1\frac{1}{2}$ in. by 18 in., 17 6 .. $1\frac{1}{2}$ in. by 18 in., 21



THE "FOUR OAKS" PATENT UNDENTABLE ANGLE JOINTED SPRAYING

The "Four Oaks" Undentable Angle Jointed Syringe, invaluable for syringing the under-sides of leaves and branches which cannot be reached by the ordinary syringe. Is an Undentable Syringe, illustrated above, with the addition of an Angle Joint.

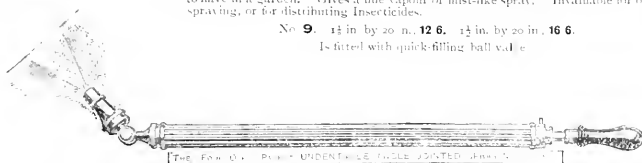
No. 4. Best quality, teak handle Ladies' size, $1\frac{1}{2}$ in. by 16 in., 21 Standard size, $1\frac{1}{2}$ in. by 20 in., 27 Large size, $1\frac{1}{2}$ in. by 20 in., 32
No. 5. Good quality, rosewood handle Ladies' size, $1\frac{1}{2}$ in. by 16 in., 20 Standard size, $1\frac{1}{2}$ in. by 18 in., 23 6 Large size, $1\frac{1}{2}$ in. by 18 in., 28



The "Four Oaks" Undentable Spraying Syringe. The most useful Syringe it is possible to have in a garden. Gives a fine vapour or mist-like spray. Invaluable for ordinary spraying, or for distributing Insecticides.

No. 9. $1\frac{1}{2}$ in. by 20 in., 12 6. $1\frac{1}{2}$ in. by 20 in., 16 6.

Is fitted with quick-filling ball valve.



The "Four Oaks" Undentable Angle Jointed Spraying Syringe. This is the same Syringe as No. 9 illustrated above, but with the addition of an Angle Joint for spraying the under-sides of leaves and branches. An invaluable Syringe.

No. 9 A.J. $1\frac{1}{2}$ in. by 20 in., 18 .. $1\frac{1}{2}$ in. by 20 in., 22 6

ANY OF THE ABOVE SYRINGES WILLINGLY SENT ON APPROVAL TO ANY GARDENER.

The "Four Oaks" Patent Knapsack Sprayer, No. 101 (British Made)

The Most Simple yet by far the best Knapsack Sprayer ever produced, and will last ten times as long as any other.

No rubber valves to perish or get out of order. All working parts outside.

The only Knapsack with force behind the spray.

We manufacture large Spraying Machines of every description. Send for Catalogue.

A Machine willingly sent on approval to any Gardener.



Suitable for Spraying Fruit Trees and Trees of all kinds, Hops, Vines, Coffee, Tea and Cocoa, also Potatoes and other crops.

PRICE 45/-

Complete with "Four Oaks" Patent Spraying Nozzle, also Swivel Nozzle and Short Brass Tube with Stop Cock and 3 feet Best India-rubber Tube. Will give very fine, medium, or coarse spray as desired. Double Swivel Nozzle, 4 - extra.

LONG TUBES FOR SPRAYING TALL TREES.

"Four Oaks" Patent Bamboo Lance, 10 ft. 6 in., with interior Brass Tube, Stop-cock and Fittings - 17 6
6 ft. 6 in. Do. - 12 6
Strongly recommended.

Manufactured only by the

Inventors and Patentees:-

The "Four Oaks" Undentable Syringe & Spraying Machine Co. SUTTON COLDFIELD BIRMINGHAM, ENGLAND

Send for Catalogue of Syringes, Spraying Machines, and other Horticultural Specialities.

All leading Irish Seedsmen and Nurserymen act as our Agents and supply our Specialities.

By Royal
Appointment

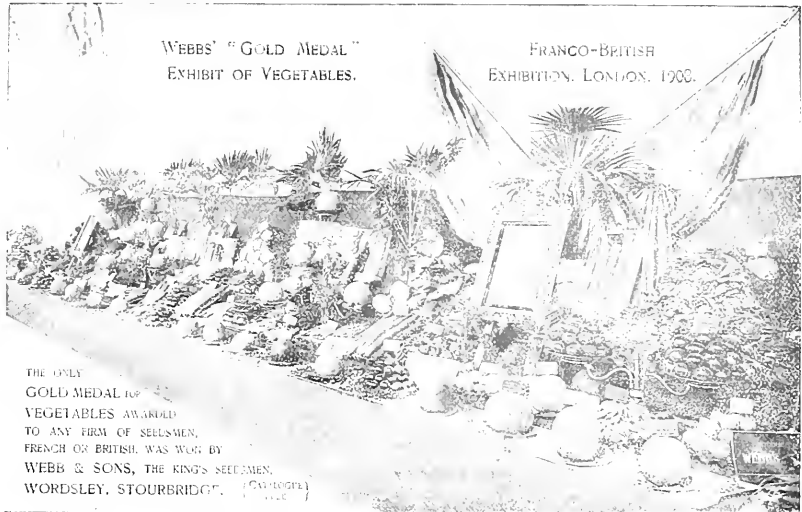


To H.M.
The King

WEBBS' SEEDS

Gold Medals won by Webbs' Vegetables and Flowers in 1908

At the FRANCO-BRITISH EXHIBITION (International Horticultural Show, June, 1908)
SHREWSBURY, BIRMINGHAM, YORK, CARDIFF, HANLEY, &c.



THE ONLY
GOLD MEDAL FOR
VEGETABLES AWARDED
TO ANY FIRM OF SEEDSMEN,
FRENCH OR BRITISH, WAS WON BY
WEBB & SONS, THE KING'S SEEDSMEN,
WORDSLEY, STOURBRIDGE. (CATALOGUE)

SPECIAL VEGETABLES.

Webbs' New Pioneer Pea	per qt.	3	0
Webbs' Stourbridge Marrow Pea	..	2	6
Webbs' Eclipse Runner Bean	..	3	0
Webbs' Abundance Dwarf Bean	..	3	0
Webbs' Mammoth Longpod Bd. Bean	..	2	6
Webbs' Reliance Globe Beet	per 6d and	1	0
Webbs' Improved Banbury Onion	.. 6d. ..	1	0
Webbs' Avalanche Broccoli	.. 6d. ..	1	0
Webbs' Emperor Cabbage	.. 6d. ..	1	0
Webbs' Pink Perfection Celery	.. 6d. ..	1	0
Webbs' Early Mammoth Cauliflower	per pkt.	1	6
Webbs' Exhibition Cos Lettuce	per pkt. 6d. and	1	0
Webbs' Champion Prize Leek	per pkt.	1	6
Webbs' Silver Ball Turnip	per oz.	0	6
Webbs' Marrowfat Parsnip	..	0	9
Webbs' Wonderful Carrot (Early)	..	1	3
Webbs' Colonist Potato (Early)	per peck	4	0

BEAUTIFUL ANNUALS.

Webbs' Bedding Aster	per pkt. 6d. and	1	0
Webbs' Ostrich Plume Aster	.. 6d. ..	1	0
Webbs' Bedding Stock	.. 6d. ..	1	0
Webbs' Imperial Ten-week Stock	.. 6d. ..	1	0
Webbs' Annual Chrysanthemum	per pkt.	0	6
Webbs' Double Salmon Clarkia	..	0	6
Webbs' Bridegroom Godetia	per pkt. 6d. and	1	0
Webbs' Ensign Larkspur	.. 6d. ..	1	0
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Webbs' Harlequin Salpiglossis	.. 6d. ..	1	0
Webbs' Nigella, Miss Jekyll	per pkt.	1	0
Webbs' Buttercup Eschscholtzia	..	1	0
Webbs' Large-Flowered Nemesis	..	1	0
Webbs' Nicotiana Sanderae	..	1	0
Webbs' Giant Mignonette	per pkt. 6d. and	1	0
Webbs' Large-Flowered Sweet Pea	per pkt.	0	6
Webbs' Champion Dianthus	per pkt 6d and	1	0

For full particulars, see **WEBBS' SPRING CATALOGUE**, gratis and post free.

WEBB & SONS, WORDSLEY,
STOURBRIDGE

For Destroying **CATERPILLARS**

On **APPLES, PEARS, GOOSEBERRIES, CURRANTS, ROSES,**
and all other Trees

SPRAY WITH **SWIFT'S ARSENATE OF LEAD**

It will supersede all other similar insecticides, and it has now a very large sale amongst the most up-to-date Fruit Growers in the great fruit-producing districts both in Ireland and England. No caterpillar can exist on foliage which has been sprayed with Swift's Arsenate of Lead. **Experiments made in Ireland** with Swift's Arsenate of Lead have **demonstrated its superiority** over Paris Green, London Purple, &c. Full directions for use sent with all orders. See Department's Leaflet No. 85.

It kills ALL leaf-eating Caterpillars without exception.

Suitable for all trees.

It sticks on the leaves.

Rain will not wash it off.

No danger of burning or scorching the leaves as Paris green does.

Tends to produce better and larger fruit.

Used by many Irish and English Fruit Growers in last two or three years

PRICES

1lb. Tins	...	at 1s. per lb.	20lb. Wooden Pails	...	at 10d. per lb.
5lb. Wooden Pails	...	.. 18.	50lb. " Kegs	...	.. 9 1/2d.
10lb. " "	...	.. 10 1/2d.	100lb. " "	...	.. 9d.

All kegs and tins Free. Carriage paid on 50 lbs. and upwards.

MANUFACTURED BY MERRIMAC CHEMICAL COY., BOSTON, U.S.A.

Sole Irish Agent—

D. M. WATSON, Chemist, 61 Sth. Gt. George's Street, Dublin

SMITH'S 'PERFECT' WEED KILLER

(Powder and Liquid)

LIQUID.—Prices:

	s.	d.	gals.	£	s.	d.
1 gal.	2	0	0	12	6	
2 gals.	3	9	10	0	14	0
3 "	5	6	12	0	17	0
4 "	7	0	16	0	1	2
5 "	8	0	18	0	1	5
6 "	9	6	20	0	1	8
40 gallons.	£2	10	0			

One Gallon makes 25 Gallons for use. Packages extra, but allowed for on return.

Carriage paid on 8 Gallons.

An Irish Testimonial.

Glendaragh,
Newtown-Mount-Kennedy,
Co. Wicklow.

I obtained several tins of Smith's Patent Weed Killer Powder, and used the preparation last year on walks and avenue here. Where the Powder was used all weeds were destroyed, and the walks kept perfectly free from weedy growths for the season.

B. ST. G. DEANE,
Commander R.N. (retired), J.P. for
Co. Wicklow.

POWDER.

A Scientific Triumph!
Nothing like it ever seen before!
Immediately Soluble in cold water!

All Tins Free No Return Empties

	£	s.	d.
1 Tin, sufficient to make 25 gals.	0	2	0
4 Tins	0	7	0
5 "	0	12	6
*12 "	0	17	0
*20 "	1	8	0
*40 "	2	10	0

Carriage paid on 8 Tins

* Box 6d extra. † Box 1s. extra.

IRISH AGENT—**D. M. WATSON, Horticultural Chemist**
61 South Great George's Street, DUBLIN

'Phone, 1971.

Write for Booklet of Testimonials, &c.

“Plants for the Garden.”

THIS is the title of a new Spring publication containing descriptive lists of the best varieties of numerous classes of hardy perennials of easy garden culture. It comprises choice collections of Delphiniums, Phloxes, Pyrethrums (including a number of novelties), Paeonies, and a long list of herbaceous and alpine plants for planting now. The weather has been too cold and wet so far in most districts for moving these plants, but it is now milder, and planting may, with advantage, be proceeded with at once. The catalogue is published by MESSRS. WATSON & SONS, LTD., Clontarf Nurseries, Dublin. Particulars are also given respecting numerous popular and inexpensive bedding plants of seasonable character, also of the firm's Gold Medal Dahlias and Outdoor Chrysanthemums, for which they are booking orders to be delivered in due season; the latter include the new Single varieties, which are rapidly coming to the front.

It is very important to obtain decent-sized clumps when buying herbaceous flowers and alpine, &c., and readers may depend upon obtaining good, sound stuff from Clontarf.

The book is nicely illustrated, and contains many useful notes on culture. It may be obtained free on application to Messrs. WATSON.

Royal Horticultural Society of Ireland.

THE monthly meeting of the council was held on March 12th at the society's offices, 5 Molesworth Street, Dublin, the following members being present—viz., Messrs. Robt. Anderson, W. J. Mitchison, J. Wylie-Henderson, R. T. Harris, LL.D.; Geo. Watson, Ernest Bewley, T. C.; W. F. Gunn, H. P. Goodbody, Ed. D'Olier, Jas. Robertson, J. P., presided. Appointments of judges for various sections of the spring show, to be held at Ballsbridge in April, were made and other business transacted. New members elected were—Mrs. Butler, Priestown, Meath; Mr. F. Simmons, The Gardens, Roebuck Castle, Dundrum; Mr. Wm. Egan, The Gardens, New Park, Maryborough; Mrs. Dalgety, Allan's Grove, Leixlip; Mrs. Alex. Stewart, Malakoff House, Rathgar, and Mrs. W. H. Monks, 16 Eurlisfort Terrace, Dublin. We may add that the month of chilling weather experienced up to mid-March has considerably cooled down the hot anxiety shown by not a few in the matter of having a spring show, which is nothing if not a daffodil show, without the daffodil. *Pulsidus praecox* was certainly flowering during February in Wexford, and down south something else was written about, but there are always a few misguided members in most families, and this one is not the exception, but in three weeks *nunc verrens*.

Forest, Fruit & all other Trees
& Plants, Roses, Evergreens &c
Stocks quite unequalled. Catalogues post free.
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This "Apparatus" has obtained repute both in Large and Small Gardens.

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BOARD'S PATENT "WIRE TENSION"
"AMATEUR"
Light and Elegant.



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IRON FRAME.

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FLAT CLASS

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SPAN ROOF.

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10 ft. x 6 ft. £9 10 0

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Carriage paid to Irish Ports.

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See Exhibit at DUBLIN SPRING SHOW.

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Cross's Garden Fertiliser

Occupies the first place with Horticulturists
 One cwt. will go as far as 1½ cwt. of most
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Other essentials for the Garden and Greenhouse—

- CROSS'S CLUBICIDE**
CROSS'S NICOTINE VAPORISER
CROSS'S ORGANIC TOMATO GUANO

To be had from your Seedsman

Manufactured by

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STANDARD MACHINES FOR HAND, PONY, OR HORSE POWER.

Fitted with Steel Axle Springs.

SIZES—
 10 inches
 to
 48 inches.



Also
SMALL MOWERS,
 6, 7, and 8
 inches.

"THE CALEDONIA" Light ROLLER MACHINE with Patent Axle Springs.

SIDE-WHEEL MOWERS.

- "The Talisman"**
"The Britannia"
 and
"The Britisher"



Light and Cheap.
 WITH OR WITHOUT
 GRASS BOXES.

ROLLERS FOR HAND, PONY, OR HORSE.

Also **Petrol Motor Mowers**, the most powerful on the market.
Of all Ironmongers and Seedsmen.

IMPORTANT TO GARDENERS and Fruit Growers.



"Niquas"

(Registered).

The most successful Non-poisonous Insecticide of the day.

ITS ADVANTAGES ARE—

Certain death to all Insect Pests.
 No possible injury to the most delicate Plant, Flower or Foliage.
 It is by far the cheapest Insecticide known. One pint makes ten to twelve gallons for Thrip, Black and Green Fly, &c. whilst RED SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by using "NIQUAS," double or three times the strength required for Fly.

PRICES—Pint, 1/-; Quart, 1/9; Half-Gallon, 3/-; Gallon, 5.-; Kegs, each Five Gallons, 22/6; Ten Gallons, 42/6.

Ask for Testimonials, of which some hundreds have been received.

SPECIMEN TESTIMONIAL.

From Mr. E. HUBBARD, Gardener to G. Hanbury, Esq., Blythwood, Burnham, Bucks, May 15th, 1906.

"I have been using your "NIQUAS" Insecticide for some years, and can with all confidence say it is the best I have ever used for Bug, Thrip, Red Spider, American Blight, and for all Insect Pests it has no equal. Also for the destruction of Maggots in Marguerites by dipping.
 "I have recommended it to my friends generally."

LETHORION

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IMPROVED METAL



VAPOUR CONE

FOR FUMIGATING.

At Greatly Reduced Prices.

INTRODUCED 1885.

(Registered Trade Mark.)

This well-known invention for the entire eradication of all pests infesting vegetation under glass is now manufactured in a more simple and reliable form. The small candle, which will be found packed with each cone, has only to be lighted, and placed on the ground in the centre of the Cone Frame, to produce immediate results. Nothing on the market can equal it for efficacy and cheapness.

Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet, 1/- each. Cone No. 2, for a well-secured house of cubic 1,000 to 1,200 feet, 8d. each. Cone No. 1, Carbon, for frames of cubic 100 feet, 6d. each. *Full directions accompany each Cone.*

Ask for a List of Testimonials, of which some hundreds have been received from the leading gardeners in the Kingdom.

To be had from all Seedsmen and Florists.

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CORRY & CO., LTD.,
 At their Bonded Chemical Works,
SHAD THAMES, S.E.

Office & Show Rooms—13 & 15 Finsbury St., London, E.C.

Notes and News.

MR. WM. BAYLOR HARTLAND sends us samples of his seedling potato "Claddagh," asking us to cook and "try them with butter and milk in the thoroughly Irish manner." We have done so, and never tasted a nicer dish of potatoes. They are firm, floury, and of a most pleasing flavour.

BRAMLEY'S SEEDLING APPLE.—In reference to Mr. MacDonnell's article on this subject in last month's issue, Messrs. H. Merryweather & Sons (of Southwell) write to say that "it was Mr. H. Merryweather who first recognised the sterling qualities of Bramley's Seedling, and it was he who exhibited it, gaining first a 'highly commended' card in 1870 and a first class certificate in 1883."

MR. C. E. GREY writes telling how he was very much troubled with slugs and various insects both in his vegetable and flower garden until he introduced a pair of ducks, since when he has been troubled so no more. His advice to our readers is "keep ducks" and give them the run of the garden.

MR. A. DRYDEN writes advising the planting of hyacinths in quantity for a spring show in the flower garden. "Since the first days of February they have been in flower more or less, and at present they are a picture, completely smothered with their beautiful flowers."

THE Athboy Daffodil and Home Industries Show will be held at the St. James' National School on Wednesday the 14th inst.

THE cultivation of orchids, although to a certain extent a special art, is by no means beyond the powers of the amateur provided with a greenhouse. There is a considerable range of choice from those whose heat requirements do not demand a temperature beyond 50 to 70 degrees. Readers will notice that Messrs. Heath and Son are disposing of their entire collection of orchids, and this seems a favourable opportunity for those who have suitable houses to acquire such plants at reasonable prices. Any amateur feeling disposed to venture into this most fascinating branch of horticulture will do well to write for list and particulars.

LEAF MINING MAGGOTS, as all gardeners know too well, are extremely troublesome to deal with, as owing to the fact that they burrow within the substance of the leaf the epidermis effectually protects them from the killing influence of any ordinary insecticides. The usual practice is to pinch between finger and thumb the spot where the grub lies, and so kill it. We have before us a letter from Mr. W. Wells, the chrysanthemum specialist, in which the writer states that he has found by accident that the fumes of No. 1 brand of "Auto-Shreds" is certain death to leaf-miners. We should be glad to hear from any other reader who can speak from experience on this matter.

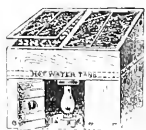
GREENHOUSE SHADING is a subject for owners of glass-houses to consider at present, and there is considerable doubt as to what is the best shading to use. One of the very best of the advertised preparations is Smith's

TOOPE'S PROPAGATORS

The First and still the Best
Very best materials only used
Prices from 10 6 " Catalogue Free
Thousands Sold

We challenge comparison Amateur Propagator Fittings, Heating Apparatus, Garden Sundries, Syringes, Sprayers, Bell Glasses, &c.

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including Fruit Trees of all kinds, clean and well rooted; Roses of all classes, thousands to select from; Avenue Trees of all kinds; Conifers, a magnificent collection; Evergreen and Deciduous Flowering Shrubs in endless variety; Forest Trees, several acres of all sizes. Inspection invited

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of all other Greenhouse Heaters is the testimony of Thousands of Users the World over.

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is incomparable for keeping that unvarying temperature so necessary for successful growing.

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HAVING DECIDED TO SELL OUR ENTIRE STOCK OF

ORCHIDS

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ABSURDLY LOW PRICES

And shall be glad to quote for

COLLECTIONS FROM 2 TO 100 GUINEAS

Burnslade, Scotland, Feby. 5—"Herewith I send cheque £100 for the collection of Orchids you have sent me. Now that they are all unpacked, I am very pleased indeed with the plants; they are good specimens, and in perfect condition. Your packing is excellent. I am sorry I have no room for the large specimen Himalayan Rhododendrons."



NOW is the time to buy NICE, YOUNG, WELL-ROOTED
PERPETUAL-FLOWERING CARNATIONS

TO BLOOM THROUGHOUT NEXT AUTUMN, WINTER AND SPRING

The Cheapest and Best procurable.

Send for new List of Novelties, also Pelargoniums and Begonias.

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6/-, 9/-, 12/- per dozen.

"Perfect" summer shading, put up in 18. tins and also supplied in bulk for large users. It is in two colours—green and white. Most users prefer the green, although it is very doubtful that green is the best colour to use for such purposes, notwithstanding the fact that Smith's green shading has been used for many years on the glass in the Botanical Gardens at Kew. The Irish agent for Smith's shading is Mr. D. M. Watson, horticultural chemist, 61 South Great George's Street, Dublin, who will be glad to give all further information.

SPRAYING AND LIME-WASHING.—Continuing the notes in our last two issues we now give an illustration of a special narrow gauge machine, "The Little Aston," manufactured by the "Four Oaks" Spraying Machine Co., suitable for use in gooseberry and currant plantations. It is light and handy, and provided with a powerful pump capable of doing better and quicker work than a knapsack. It is also suitable for lime-washing, being capable of covering two hundred square feet of wall in five minutes. A smaller machine is "the Warwick" pattern, and consists of a pump fitted to a galvanised pail, and as the price is moderate it ought to find its way into every amateur's garden.

LOVERS OF FERNS will be interested in a new catalogue of hardy ferns issued from Perry's Hardy Plant Farm, Enfield, Middlesex. The collection (300 varieties as a first instalment) is stated to have been in course of formation for more than 50 years.



Bentley's Compound Quassia Extract

THE ORIGINAL!

MANUFACTURED BY SPECIAL AND UNIQUE PROCESS. The perfect Insecticide for destroying Green, White and Black Fly, Celery, Carrot, Turnip, and Onion Fly, Caterpillar, &c.

Each gallon makes from 30 to 100 gallons ready for use.

20 galls., 3/4 per gall.) In 5 gall. drums, charged
10 galls., 3/5 per gall.) half cost, 9d. each.
5 galls., 3/6 per gall.) Not returnable.
1 gall., 4/-; 1/2 gall., 2/4; 1 quart, 1/5; 1 pint, 11d. each. Tins Free.

Bentley's Daisy Killer (LAWN SAND)

A WEED KILLER AND FERTILISER COMBINED
Commands rapidly-growing sales.

1 ton, £20; 10 cwt., £10 10/-; 5 cwt., £5 10/-; 1 cwt., 23/-; 1/2 cwt., 12/6. Tins, 5/-, 2/6, and 1/- each.

CARRIAGE PAID ON 7/6 ORDERS AND UPWARDS.

Wholesale Manufacturers

JOSEPH BENTLEY, Ltd., CHEMICAL WORKS,
BARROW-ON-HUMBER, HULL.

McKenzie's

**Dwarf Evergreen
Grass Seeds**, for
Lawns, Croquet and
Putting Greens, Tennis
Courts, &c., ensure a
velvety close Turf.
Finest, 1/3 per lb.; Fine,
1/- per lb.

**Bee-hives and
Appliances** of most
up-to-date and approved
patterns.

New Descriptive Lists post free

THOS. MCKENZIE & SONS
Limited
212 Great Brunswick St.
DUBLIN

IRISH-MADE FLOWER POTS.—We have received a circular from Mr. Owens, Enniscorthy, drawing attention to the superior quality of Irish-made pots and the exceptional suitability of the clay at Carley's Bridge to that particular form of pottery. We are always pleased to hear of home industry doing well, and as Mr. Owens assures us that there is a growing trade for Irish-made flower-pots, we may assume that the quality and price of these stand the test of comparison with similar articles made in potteries outside Ireland.

TOMATO PLANTS

Offered by **ELIE MAHY, Expert Crower, Cuernsey**, have a long-established reputation for being most reliable, healthy, and prolific. Seasonable varieties throughout the season. Carter's "Sunrise" and "Stirling Castle" now ready; 12, 1 3/4; 25, 2; 50, 3; 500, 20/-; 1,000, 30/-; all safely packed and delivered in good condition at the risk of the sender, carriage paid. *Mention paper.*

The Only Original Lawn Sand

WATSON'S LAWN SAND OR WEED DESTROYER

Destroys Daisies, Plantains, Dandelions, and similar weeds so troublesome and unsightly on lawns, at the same time invigorates the grass. Testimonials and Instructions on Application.

34s. per cwt.; 50-lb. Kegs, 18s.; 28-lb. Tins, 9s. 6d. Sample Catalogue, 5s. 6d., 2s. 6d., post 1/3, and 1s. (post 1/2, 5d.). Sold by Seedsmen and Nurserymen throughout the country.

A. J. BARBOUR, 8 Upper Fountaine St., LEEDS

FOR CHOICE CARNATIONS

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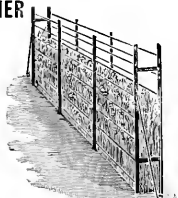
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MEDSTED, HANTS

Who has an excellent Selection in all three Sections to offer

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The PARAGON PEA TRAINER
(PATENT)

CONSISTS of light iron Frames of special construction, with lines of training wire stretched between, supported at intervals by intermediate Standards. No trouble, always ready, and will last for years with only a few pennies outlay for any necessary renewal of training wire. Made 4 ft., 5 ft. and 6 ft. high.



Extracts from some of latest testimonials:—
"The Pea Trainers, in my opinion, could not be improved; they are perfect in every way. The Foss can be removed from the plants without difficulty, and the whole can be taken down and reerected without loss of time."
"I can thoroughly recommend your Pea Trainer, and I trust that this fresh Irish industry will, in the coming years, meet with the prosperity its invention merits."

—DUNDONALD.
"I am quite satisfied with your Paragon Trainers, and use nothing but them."
—JESSEY.

Supplied through Seedsmen and Ironmongers, or direct from—

The Paragon Pea Trainer Co.,
Bridge St., Banbridge,
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Try our new Trainers for Runner Beans and Raspberries.
Write for Price List.

V2 FLUID

For Summer Spraying

Kills Greenfly, Psylla, Scale Insects, and Young Caterpillars.

1 Gallon makes 100 Gallons of Spray Mixture.

APTERITE

The Soil Fumigant

Destroys underground pests, including WIRE-WORMS and Grubs of all kinds, Slugs, Ants, Millipedes, &c.

WEEDICIDE

A Concentrated Weed-Killer

Destroys Grass and Weeds on Garden Paths.

Full particulars & prices from the Sole Mfrs.,
Wm. Cooper & Nephews, Berkhamsted.




DANYSZ VIRUS is not a Poison, but **KILLS**
RATS & MICE
Harmless to other Animals and Human Beings
Single Tube, 2/-; Three Tubes, 5/-, Post Free
From **DANYSZ VIRUS, LTD.** Box 469
52 Leadenhall Street, LONDON, E.C.
And of all Chemists

POTASH MANURES

ALL CROPS REQUIRE POTASH.—
Especially Potatoes, Roots, Flax, Grass
Clovers, Peas, Beans and Onions . . .

The best way to supply Potash for Crops is to apply Kainit in Winter, or Muriate of Potash, or Sulphate of Potash, in Spring or at seed time to the soil

Leaflets and Pamphlets may be had on application to—
GEORGE RYCE, MANAGER
AGRICULTURAL OFFICES
15 Parliament Street, and
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Potash Manures may be had from all Manure Dealers

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"CLIMAX" LAWN SAND

When applied during dry weather clabs and other weeds are destroyed and a fine growth of grass quickly covers the places occupied by the figuring weeds. Thousands of weedy and poor Lawns have been transformed to Climax Lawn Sand. Why not yours? Try it now. 7lbs 2s., 14lbs 3s. 6d., 28lbs 6s., 56lbs 11s., 112lbs 20s. Carriage paid. Sample Tin 1s. 3d., post free.

PROTECT YOUR PLANTS From Slugs, Grubs, Caterpillars, Ants, Wireworm, and the Domestic Cat.

By ALPHOL

A non-poisonous Manure, deadly to every creeping thing, yet does not injure the foliage of plants. Testimonials on application. 7lbs 2s., 14lbs 3s. 6d., 28lbs 6s. Carriage paid. Sample Tin 1s. 3d., post free.

On Garden Paths, Carriage Drives, &c.
By "CLIMAX" WEED KILLER

ONE APPLICATION KEEPS
 Down every growth for 12 months. No hoeing or weedy weeding.
PATHS ALWAYS BRIGHT AND CLEAN.
 No. 1 Tin to dress 400 square yards, 2s.
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Have been our speciality for over thirty years. Their propagating and growing—not a department, but our sole business. We have one of the finest collections of the old and the new, the common and the rare plants in existence, all guaranteed true to name. Our New Illustrated Cultural and Descriptive Catalogue for 1909, post free. Have you a garden difficulty? We'll advise you free. Send us leaves or stems of any hardy plants you don't know and we'll name them for you. If you have a flower garden we honestly believe it is to your advantage to correspond with us. We give personal attention to all communications. Don't you think it is worth while to try us?
JOHN STORMONTH & SON, Hardy Plant Specialists, Kirkbride, CARLISLE.

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STAND PRE-EMINENT!

Known and appreciated throughout the World

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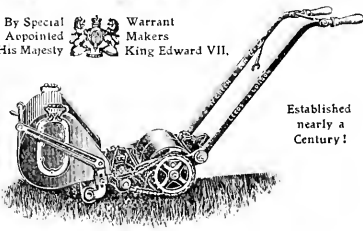
Highest Awards, Royal Botanic Society, 1905-6;
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Warrant
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Established
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WINDOW GLASS.

Polished Plate for Shop Windows.
Ornamental Glass of all Descriptions.
Horticultural Glass at Lowest Rates.

DEATH TO THE WEEDS.
HOYTE'S WEED KILLER.

Strongly Recommended for the Destruction of Weeds, &c.
Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon;
10 gallons, 1s. 3d. per gallon; Original 40-gallon casks,
1s. per gallon.

HOYTE & SON, The City of Dublin Drug Hall,
17 LOWER SACKVILLE STREET, DUBLIN.


'EUREKA' WEED KILLER.
SAVES WEARY WEEDING.

50 gallons of mixed solution will kill all
weeds on 200 square yards of paths, &c.

POWDER.
1 tin for 12 galls. solution } Free Tins
19 " 25 " " " } Cases
6 " 100 " " " }

LIQUID. 1-50.
1/2 gallon - 2/- drum free
1 " - 3/6 " " ad. extra
2 " - 6/6 " " 10 "
5 " - 14/- " " 20 "
10 " - 25/6 " " 50 "

'EUREKATINE' The successful fumigant.
'EUREKA' Insecticide, Lawn Sand, Heliochrome Powder, Bordeaux
Mixture, Worm Killer, Hayward's Summer Shade, &c.
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Full list with booklet, "Chemistry in Garden and Greenhouse," sent
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TOMLINSON & HAYWARD, Ltd., LINCOLN.



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(FUMIGANT).
each cubic ft. each
No. 1 size Tin—1 pint 60 0 0
No. 2 size Tin—1 pint 15 0 6
No. 3 size Tin—1 pint 7 0 6
No. 4 size Tin—6 oz. 4 0 6
No. 5 size Tin—4 oz. 3 0 8
No. 4 size Bot.—10z., new size 40 0 0
No. 5 size Bot.—10z., sample 20 0 0

Carriage Paid.
FUMIGATORS.
1s. each, for 5500 cubic feet.
NICOTICIDE PLANT SPRAY.
3 pint, 1s. 2d. Pint, 2s.
1 quart, 3s. 6d. Gallon, 10s. Carriage paid


**GOW'S LAWN SAND
DAISY ERADICATOR.**
25 lbs. to dress 100 square yards, 7s. 6d.;
1 cwt. keg., 21s. Carriage paid.

GOW'S SLUG AND WIREWORM DESTROYER.
Being a Combined Fertilizer.
TOBACCO POWDER AND QUASSIA EXTRACT.
Sold in 6d., 1s., and 2s. 6d. tins, also in larger sizes.
Carriage forward

GOW'S LIQUID WEED KILLER GOW'S POWDER WEED KILLER
1 doz. to make 50 galls. in 50 gal. cask No. 1 Tin, 2/- to make 25 gals.
5 " " " " " " " " No. 2 Tin, 6/- " " " " " " " " to make 100 "

Drawn free. Carriage paid. This free. Carriage paid.

If any difficulty in securing the above we will give you
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Fig. 1
Silver Medal— Royal Horticultural Society.
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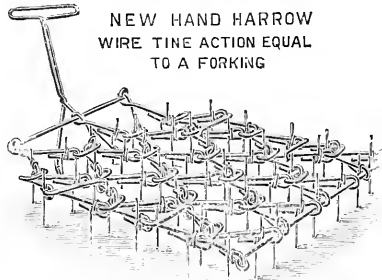
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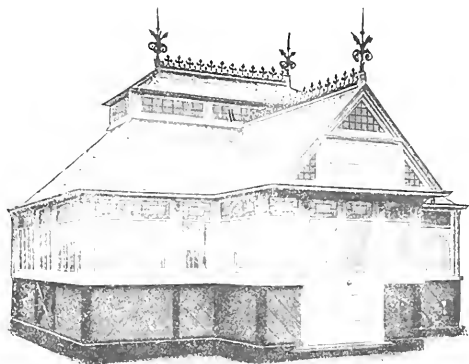
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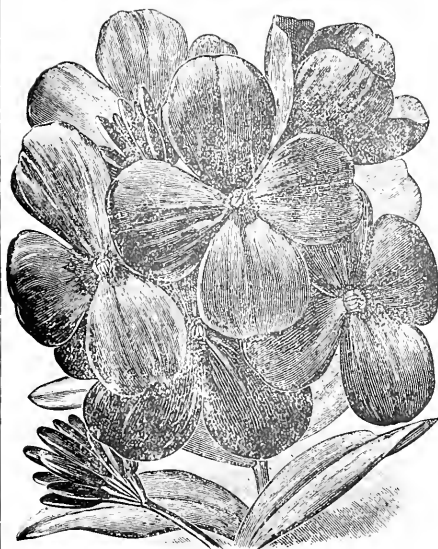
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6d. and	1	0
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Sold by Seedsmen and Nurserymen everywhere.

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WHITE'S
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INSECTICIDE

ABOL, ABOLISHES APHIS

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American Blight,
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and all kinds of

For Garden and Greenhouse Use.

TRY IT and you will agree. "It acts like a charm." AN EXCELLENT REMEDY FOR MILDEW.

½ Pt., 1 - Pt., 1 ½. Qt., 2/6. ½-Gall., 4-; Gall., 7/6.

"ABOL" SYRINGE Best Sprayer.

Does more and better work than other syringes double the size. TRY IT, and you will agree.

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**Simplest! Strongest!
Most Economical!**



FIG. 1

Silver Medal—Royal Horticultural Society.

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"The boots supplied two years ago are as good as ever."

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FIG. 2

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CRIMSON, WHITE, PINK, 250 choice-named varieties, fine foliage, well budded for potting or planting. 1 to 1½ ft.—1½ to 2—2 to 2½ 2½ to 3—3 to 4—4 to 5—5 to 6—6 to 7. List of sorts and prices on application. Many thousands to offer. Standards in all sizes. All home-grown. Inspection invited.

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For Destroying Weeds, Moss, &c., on Carriage Drives, Garden Walks, Roads, &c.

POWDER WEED KILLER

Dissolves Quickly in Cold Water

Size 1 No. 1 .. Sufficient to make 25 gallons .. 19/-
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LIQUID WEED KILLERS

Strength 1 in 25 and 1 in 50. Prices on application

SOLUBLE PARAFFIN mixes instantly with water and does not separate.

ARSENATE OF LEAD—for destroying all leaf-eating insects.

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COMPOUND EXTRACT OF QUASSIA AND SOFT SOAP INSECTICIDE

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LIVER OF SULPHUR

CAUSTIC SODA, 98 per cent.

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What's this! A New Plant?
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Designed by a Gardener for Gardeners.
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In Dark Blue
 "Ponicus"
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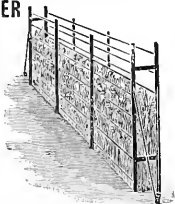
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"I am quite satisfied with your Pea Trainers, and use many of them."
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Supplied through Seedsmen and Horticulturists, or direct from—

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are acknowledged by all users to be

THE BEST SYRINGES THE WORLD HAS EVER SEEN.

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Send for samples and you will afterwards use no other make.

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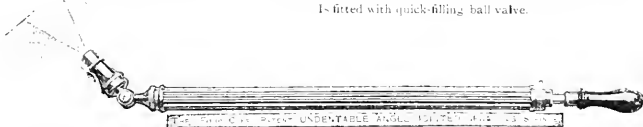
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No. 4. Best quality, teak handle Ladies' size, 14 in. by 16 in., 21 Standard size, 14 in. by 20 in., 27 Large size, 14 in. by 26 in., 32
No. 5. Good quality, rosewood handle Ladies' size, 14 in. by 16 in., 20 Standard size, 14 in. by 18 in., 23 6 Large size, 14 in. by 26 in., 28



The "Four Oaks" Undentable Spraying Syringe. The most useful syringe it is possible to have in a garden. Gives a fine vapour or mist-like spray. Invaluable for ordinary spraying, or for distributing Insecticides.

No. 9. 14 in. by 20 in., 12 6. 14 in. by 26 in., 16 6
Is fitted with quick-filling ball valve.



The "Four Oaks" Undentable Angle Jointed Spraying Syringe. This is the same syringe as No. 9 illustrated above, but with the addition of an Angle Joint for spraying the undersides of leaves and branches. An invaluable Syringe.

No. 9 A.J., 14 in. by 20 in., 18 14 in. by 26 in., 22 6

ANY OF THE ABOVE SYRINGES WILLINGLY SENT ON APPROVAL TO ANY GARDENER.

The "Four Oaks" Patent Knapsack Sprayer, No. 101 (British Made)

The Most Simple yet by far the best Knapsack Sprayer ever produced, and will last ten times as long as any other.

No rubber valves to perish or get out of order. All working parts outside.

The only Knapsack with force behind the spray.

We manufacture large Spraying Machines of every description. Send for Catalogue.

A Machine willingly sent on approval to any Gardener.

Manufactured only by the Inventors and Patentees:



Suitable for Spraying Fruit Trees and Trees of all kinds, Hops, Vines, Coffee, Tea and Cocoa, also Potatoes and other crops.

PRICE 45/-

Complete with "Four Oaks" Patent Spraying Nozzle, also Swivel Nozzle and Short Brass Tube with Stop Cock and 3 feet Best India-rubber Tube. Will give very fine, medium, or coarse spray as desired. Double Swivel Nozzle, 4/- extra.

LONG TUBES FOR SPRAYING TALL TREES.

"Four Oaks" Patent Bamboo Lance, 10 ft. 6 in., with interior Brass Tube, Stop-cock and Fittings - 17 6
6 ft. 6 in. Do. - 12 6
Strongly recommended.

The "Four Oaks" Undentable Syringe & Spraying Machine Co. SUTTON COLDFIELD BIRMINGHAM, ENGLAND

Send for Catalogue of Syringes, Spraying Machines, and other Horticultural Specialities.
All leading Irish Seedsmen and Nurserymen act as our Agents and supply our Specialities.

For Destroying **CATERPILLARS**

On **APPLES, PEARS, GOOSEBERRIES, CURRANTS, ROSES,**
and all other Trees

SPRAY WITH **SWIFT'S ARSENATE OF LEAD**

IT will supersede all other similar Insecticides, and it has now a very large sale amongst the most up-to-date Fruit Growers in the great fruit-producing districts both in Ireland and England. No caterpillar can exist on foliage which has been sprayed with Swift's Arsenate of Lead. **Experiments made in Ireland** with Swift's Arsenate of Lead have **demonstrated its superiority** over Paris Green, London Purple, &c. Full directions for use sent with all orders. See Department's Leaflet No. 85.

It kills ALL leaf-eating Caterpillars without exception.

Suitable for all trees.

It sticks on the leaves.

Rain will not wash it off.

No danger of burning or scorching the leaves as Paris green does.

Tends to produce better and larger fruit.

Used by many Irish and English Fruit Growers in last two or three years

PRICES -

1lb. Tins	...	at 1s. per lb.	20lb. Wooden Pails	...	at 10d. per lb.
5lb. Wooden Pails	...	" 1s. "	50lb. " Kegs	...	" 9 1/2 d. "
10lb. " "	...	" 10 1/2 d. "	100lb. " "	...	" 9d. "

All kegs and tins Free. Carriage paid on 50 lbs. and upwards.

MANUFACTURED BY MERRIMAC CHEMICAL COY., BOSTON, U.S.A.

Sole Irish Agent—

D. M. WATSON, Chemist, 61 Sth. Gt. George's Street, Dublin

SMITH'S 'PERFECT' WEED KILLER

(Powder and Liquid)

LIQUID.—Prices:

	s.	d.	gals.	℥	s.	d.
1 gal.	2	0	10	0	12	6
2 gals.	3	9	10	0	0	14
3 "	5	6	12	0	0	17
4 "	7	0	16	0	0	2
5 "	8	0	18	0	0	1
6 "	9	6	20	0	0	1
40 gallons.	22	10	0	0	0	0

One Gallon makes 25 Gallons for use. Packages extra, but allowed for on return. Carriage paid on 8 Gallons.

An Irish Testimonial.

Glenaragh,
Newtown-Mount-Kennedy,
Co. Wicklow.

I obtained several tins of Smith's Patent Weed Killer Powder, and used the preparation last year on walks and avenue here. Where the Powder was used all weeds were destroyed, and the walks kept perfectly free from weedy growths for the season.

E. St. G. DEANE,

Commander R. N. (retired), J.P. for
Co. Wicklow.

POWDER.

A Scientific Triumph!

Nothing like it ever seen before!

Immediately Soluble in cold water!

All Tins Free No Return Empties

	Tins	℥	s.	d.
1 Tin, sufficient to make 25 gals.	0	2	0	0
4 Tins	0	100	0	7
" 8 "	0	200	0	12
" 12 "	0	300	0	17
" 20 "	0	500	0	1
" 40 "	0	1,000	0	2

Carriage paid on 8 Tins

* Box ed. extra. † Box is. extra.

IRISH AGENT—**D. M. WATSON, Horticultural Chemist**

61 South Great George's Street, DUBLIN

Phone, 1971.

Write for Booklet of Testimonials, &c.

Outdoor Chrysanthemums.

FEW plants produce such abundant bloom for so modest an outlay in cost of plants or cultivation.

A host of fine new kinds has been raised in recent years, and a succession of bloom may be obtained from August onwards if the right sorts are planted. They may be planted out in their flowering quarters as soon as the weather is sufficiently mild in May, and their culture is extremely simple. The ground should be dug deeply and fairly well manured, a space of about two feet being allowed between the plants. A stout stake should be placed to each, and the shoots tied as they grow, stopping them once or twice to make the plants bushy, but not after 1st July. During very dry weather water copiously once a week; soot water is good if used when the colour of weak tea, but not over the foliage. Freshly slaked lime dusted around each plant is a good protection from slugs, or crushed oyster shell does as well, as the slugs cannot crawl over it.

As to varieties, they are so numerous that planters cannot do better than consult the catalogue of Messrs. WATSON, Clontarf Nurseries, Dublin, who make a speciality of these plants and list only a choice collection of those which they have proved from their own experience to be of undoubted merit. The new Single-flowered Outdoor varieties are coming to the fore. It is all important to obtain sturdy, established plants, and Messrs. WATSON do theirs in small pots, thereby ensuring results which cannot be obtained from the planting out of rooted cuttings without a ball of soil.

Shows.

The Spring Show of the Royal Horticultural Society.

THE Royal Horticultural Society of Ireland held their annual spring show in the Arts Industries Hall of the Royal Dublin Society's premises, Ballsbridge, on 21st and 22nd April. It was a wise action of the committee to hold it in conjunction with the cattle show, as many people were thus able to visit both shows in one day. The attendance was apparently larger than on other occasions, which, though it probably did not add much to the exchequer, will undoubtedly add to the popularity of the show.

The number of exhibits was about the same as in previous years, but the quality was above the average; in fact, it was one of the best shows held for some years, the cut flowers and pot plants being especially good.

H. R. H. the Princess Louise of Schleswig-Holstein visited the show on the first day and their Excellencies the Lord Lieutenant and the Countess of Aberdeen visited it on the second day. The Royal and Viceregal visitors were apparently much interested in the exhibits.

The trade exhibits were a very fine lot, and it is gratifying to see an improvement in this section, though I think the committee should try and procure more trade exhibits at all their shows and have the various novelties

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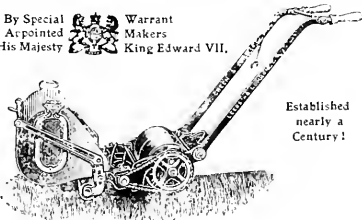
Thomas Green & Son, Ltd.

Smithfield Iron Works, Leeds, and New Surrey Works, Southwark St., London, S.E.

Sold by all Ironmongers. Please write for Price List No. 21.

Highest Awards, Royal Botanic Society, 1905-6;
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By Special Warrant
Appointed Makers
To His Majesty King Edward VII.

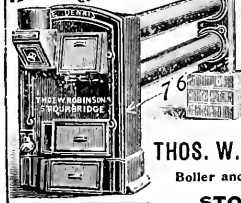


Established
nearly a
Century!

MOTOR MOWERS

Upwards of 200 have been supplied

**"THE DENNIS"
HEATING APPARATUS
COMPLETE**



This "Apparatus" has obtained repute both in Large and Small Gardens.

Write for Discounts and Price Lists. Manufacturers of PLAIN AND ORNAMENTAL SPOTING, HOT WATER PIPES, BOILERS, PUMPS, LAMP POSTS, VENTILATING GEAR.

THOS. W. ROBINSON, LTD.,

Boiler and Pipe Manufacturers,

STOURBRIDGE.

£600 PER ACRE is the gross return from an English plot of land worked under the French method of intensive culture, by the use of Cloches or Bell-glasses

FOR THE PROPAGATION OF EARLY VEGETABLES, &c.

Pilkington's Glass Cloches

SHOULD BE USED

Of superior quality and made either with or without knobs in sizes up to 20-in. diameter . . .



Carriage paid on lots of 50 or over to Dublin or Belfast . . .

Of all Dealers in Garden and Farm Requisites, or direct from . . .

Pilkington Bros., Ltd., Glass Works: ST. HELENS LANCs.

THE
LEADING HORTICULTURAL MANURE
Cross's Garden Fertiliser

Occupies the first place with Horticulturists
One cwt. will go as far as 1½ cwt. of most
Garden manures

Other essentials for the Garden and Greenhouse—

- CROSS'S CLUBICIDE**
CROSS'S NICOTINE VAPORISER
CROSS'S ORGANIC TOMATO GUANO

To be had from your Seedsman

Manufactured by

Alex. Cross & Sons, Ltd.

19 Hope Street, GLASGOW

IMPORTANT TO—
**Gardeners and
Fruit Growers**



“NIQUAS”

(Registered).

The most successful Non-poisonous Insecticide
of the day.

ITS ADVANTAGES ARE—

Certain death to all Insect Pests.

No possible injury to the most delicate Plant, Flower or Foliage.
It is by far the cheapest Insecticide known. One pint makes ten
to twelve gallons for Thrip, Black and Green Fly, &c., whilst RED
SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by
using “NIQUAS,” about double the strength required for Fly.

*It is most successfully used by Orange and
other Fruit Growers in the Colonies, &c.*

PRICES—Pint, 1/-; Quart, 1/9; Half-Gallon, 3/-; Gallon, 5/-;
Kegs, each Five Gallons, 22/6; Ten Gallons, 42/6.

LETHORION

Registered Trade Mark.

IMPROVED METAL



No. 62907.

**VAPOUR CONE
FUMIGATOR . .**

At Greatly Reduced Prices.

INTRODUCED 1885.

This well-known invention for the entire eradication of all pests
infesting vegetation under glass is now manufactured in a more
simple and reliable form. The small candle, which will be found
packed with each cone, has only to be lighted, and placed on the
ground in the centre of the Cone Frame, to produce immediate
results. Nothing on the market can equal it for efficacy and
cheapness.

Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet,
price 1/- each. Cone No. 2, for a well-secured house of cubic 1,000
to 1,200 feet, price, 8d. each. Cone No. 1, Carbon, for frames
cubic 1-0 feet, price 6d. each. *Fall directions accompany each Cone.*

Ask for a List of Testimonials, of which some hundreds have been
received from the leading gardeners in the Kingdom.

Registered No. 14629.

FOR

**All Glass Structures
THAT REQUIRE
OUTSIDE SHADING**

The only Genuine, Original, and
Improved Article. It has been in
general use for **over 30 years**

Be sure to ask for
**SUMMER CLOUD
SHADING**

And see that you get it!



Trade Mark

Sold by all Dealers in Horticultural
Supplies throughout the Kingdom,
in Packets containing 8 ozs., for 100 feet of glass, 1/-; 24 ozs., 2/6;
and in Bags of 7 lbs., 10/6; 14 lbs., 20/-.

MANUFACTURED BY

CORRY & CO., Ltd.

13 and 15 Finsbury St., LONDON, E.C.

SHANKS'
LAWN
MOWERS.

**STANDARD MACHINES FOR HAND, PONY, OR HORSE
POWER.**

Fitted with Steel Axle Springs

SIZES—
10 inches
to
48 inches.



Also
SMALL
MOWERS,
6, 7, and 8
inches.

“THE CALEDONIA” Light ROLLER MACHINE
with Patent Axle Springs.
SIDE-WHEEL MOWERS.

“The Talisman”
“The Britannia”
and
“The Britisher”



Light and Cheap.
WITH or WITHOUT
GRASS BOXES.

ROLLERS FOR HAND, PONY, OR HORSE.

Also Petrol Motor Mowers, the most powerful on the market.
Of all Ironmongers and Seedsmen.

placed before the plant lovers who attend their exhibitions. Novelties have, as a rule, more attraction than ordinary plants.

Messrs. Ramsey, Ballsbridge, had a very fine collection of plants and flowers, for which they were awarded a gold medal.

A gold medal was also awarded to Messrs. Hogg & Robertson, Mary Street, for an excellent collection of daffodils, it containing some of the finest blooms they have exhibited here.

Sir J. Gore-Booth, Lissadell, Sligo, was awarded a silver medal for a very good collection of daffodils. Messrs. Browett & Son, Kingstown, were awarded a silver medal for a very fine collection of ferns and palms. Messrs. Gill, Falmouth, received a similar award for a fine lot of Himalayan rhododendron blooms, and Messrs. Hoath, Cheltenham, for rockery and Alpine plants, which were much admired. Messrs. Watson & Sons, Clontarf; Messrs. Pennick, Delgany, Co. Wicklow; and Mr. Reamsbottom, Geashill, King's Co., had also very commendable exhibits of floral designs, hardy plants, and flowers.

Mr. Watson, the horticultural chemist of South Great George's Street, had a very interesting exhibit of fungicides and insecticides.

Pot plants were a leading feature in the show, and in general they were very well grown. The mignonette of Mrs. Meade Coffey (Mr. Ludom), the azaleas of Sir E. C. Cochrane (Mr. Colgan), the deutzias of Mr. Westby (Mr. Simmons), the amaryllis of Mr. Bewley (Mr. Caye), the pot roses (which won the president's cup) and the ferns and tulips of Mrs. Goodbody (Mr. Davis), deserve special mention. Considering the season, roses were of good quality, especially those of Mr. Bewley and Mr. D'Olier.

Narcissus were well represented, Mr. Drummie (Mr. Byrne) having very good blooms in many classes. For the challenge cup there was strong competition, with very little to choose between the first and second prize stands of Mr. S. H. Cochrane (Mr. Bowers) and Mr. R. T. Harris, respectively. I think there is much room for improvement in the manner of staging this class, considering it is one of the most important of the show. Vegetables were poor in general, though the broccoli of Sir John Franks (Mr. Checkley) was very good. Considering the importance of spring vegetables I think it would be advisable to increase the value of the prizes in this class so as to induce more competition. Competition in the fruit classes was not very keen, though strawberries were good, especially those of Mr. Westby.

It would have been interesting to have seen the apples cut and tasted by the judges, as colour is not much of a guide at this season. The committee should insist on all fruit staged being named so as to be a guide to visitors, the judges to take the correctness of the naming into consideration when awarding the prizes. Another thing which should be insisted on is, that no exhibits be removed from the stages until the hall is cleared of the public. Would it not be well to follow, to some extent at least, the ruling of the Ulster Horticultural Society on the matter of removing the exhibits after the show?

The Council are to be congratulated upon the success

of the show, and exhibitors and visitors alike are under obligations to the popular secretary (Mr. Knowlkin) for the way in which the arrangements were carried out, which were certainly an improvement upon many preceding shows of the society. W. S. L.

The Clare Horticultural Society Spring Flower Show.

THE above society held their first spring flower show on Easter Monday, and the committee and their enthusiastic secretary (Mr. H. Bill) are to be congratulated upon the success of their initial efforts to increase the interest of their supporters in the cult of daffodils and other spring flowers.

Whilst local florists had large and highly creditable displays of exhibits the popular interest centred upon the brilliant stand of blooms sent from Lissadell by Sir Jocelyn Gore-Booth, and skilfully arranged under the direction of Mr. J. Sangster (who also acted as judge of the classes). The greater portion of the front hall was devoted to Class 1, best decorated dinner table the general effect of which was considerably enhanced by a background of flowering plants sent by M. Keane, Esq., and tastefully arranged by Mr. T. Kett. The first prize in this class was secured by Mrs. Stevenson. In Class 2 Mrs. Stevenson also secured first prize for epergne decorated with spring flowers, and Mrs. Scott the second prize. In Class 3, for best collection of named daffodils, Mrs. G. U. McNamara obtained first place, and Mrs. Alex. Knox was equally fortunate for the best collection of spring flowers in the fourth class. In the competition for Major Hickman's prize for a collection of not less than 12 varieties of daffodils in sprays of five, the Rev. R. Scott took the premier position. Much interest was taken in the cut sprays of flowering shrubs and double primroses shown by Col. F. Tottenham.

The attendance was quite up to the average of the summer shows, but was composed largely of visitors, who are rarely seen in Ennis; but as all appeared to enjoy themselves and to have but one opinion of the arrangements for their entertainment, we feel sure that it will not be their last visit to the splendidly organised Clare flower shows.



A NEAT PLANT LABEL.—We have received samples of the West "Alu" label, and feel sure that once seen and used they would be often used. They are made of thin aluminium, and have a smooth, silvery surface easy to write upon. The writing may be made with an ordinary lead pencil, the marks of which we find difficult to rub off. If clearer marks are wanted jet black indelible ink may be used. Each label is provided with an aluminium shank, which, being exceedingly pliable, may be bent round the stem of the plant, thus obviating tying. They can also be used as ground labels, the shank when pushed into the soil being long enough to fix it; used in this way they would look very neat in pots. We presume that dealers in garden sundries can supply them.

NICOTIGIDE

FUMIGANT.

	each
Half Gallon Tin—contains sufficient for 10,000 cubic ft. ..	60
No. 1 size Tin—1 pint ..	15
No. 2 size Tin— $\frac{1}{2}$ pint ..	7
No. 3 size Bot. 4 oz. ..	4
No. 4 size Bot. 4 oz., new size ..	3
No. 5 size Bot. 4 oz., new size ..	1
No. 5 size Bot. 4 oz., sample ..	10

Carriage Paid.

FUMIGATORS.

15. each, lot 500 cubic feet.

NICOTIGIDE PLANT SPRAY.

$\frac{1}{2}$ pint, 15. 2d. Pint, 25.

Quart, 35. 6d. Gallon, 105.

Carriage Paid



GOW'S LAWN SAND DAISY ERADICATOR.

28 lbs., to dress 1,000 square yards, 75. 6d.; 1 cwt. keg, 215. Carriage paid.

GOW'S SLUG AND WIREWORM DESTROYER. Being a Combined Fertilizer.

TOBACCO POWDER AND QUASSIA EXTRACT.

Sold in 6d., 15., and 25. 6d. tins, also in larger sizes. Carriage forward

GOW'S

LIQUID WEED KILLER

1 gal., to make 20 gals., in sol., 3/6.

Drains free Carriage paid

GOW'S

POWDER WEED KILLER

No. 1 Tin, 2/6, to make 20 gals.

No. 2 Tin, 6/6, to make 100 "

Tins free Carriage paid.

HUNTER & GOW, 46 Thomas St., Liverpool.

200 Highest Awards: Gold Medals from all the Principal Exhibitions.

PURE ICHTHEMIC GUANO.

The Most Reliable, The Richest Food, and the Most Natural Fertiliser.

Supplied in Tins and Bags, 6d. to 20/. Carriage paid on quantities of 28 lbs. and upwards.



FAME'S FERTILISER.

Swift, Safe, and Sure.

Supplied in Tins and Bags, 6d. to 20/. Carriage paid on quantities of 28 lbs. and upwards.

May be obtained from the principal Nurserymen, Seedsmen, Florists and Chemists, or DIRECT OF—

The Sole Proprietors and Manufacturers,

WM. COLCHESTER & CO.,

IPSWICH, England.

'EUREKA' WEED KILLER.

SAVES WEARY WEEDING.

50 gallons of mixed solution will kill all weeds on 200 square yards of paths, &c.



POWDER.		Free Tins	
1	tin for 12 galls. solution	1	and
19	" 25 " "	19	" Cases.
6	" 100 " "		

LIQUID. 1-50.	
$\frac{1}{2}$ gallon	- 2 - drum free
1 "	- 3/6 - " 9d. extra
2 "	- 6/6 - " 1/6 "
5 "	- 14 - " 2/6 "
10 "	- 25/6 - cask 5 - "

'EUREKATINE'—The successful fumigant.

'EUREKA' Insecticide, Lawn Sand, Heliober Powder, Bordeaux Mixture, Worm Killer, Hayward's Summer Shade, &c.

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Full list with booklet, "Chemistry in Garden and Greenhouse," sent post free by makers—

TOMLINSON & HAYWARD, Ltd., LINCOLN.

WOBURN BORDEAUX PASTE

BORDEAUX MIXTURE made in a new and concentrated form, in fact it may be described as the essence of Bordeaux Mixture; can be used for all purposes for which Bordeaux Mixture has been recommended. Growers will save 25% in cost of materials alone by using this Fungicide, and it will be sheer waste of money to attempt to make your own Bordeaux Mixture in future

CARLTON BLUE ARSENATE

OF LEAD PASTE English Manufacture

The best and safest arsenical preparation for the destruction of the caterpillar of the Codling Moth and all leaf-eating caterpillars, including those of the Winter, March, Ermine, Lackey, Gooseberry, and other Moths upon fruit trees

WOBURN TOBACCO EXTRACT

The accepted remedy for APPLE SUCKER, also destroys all kinds of Aphis and some caterpillars

Full particulars and prices on application to—

WALTER VOSS & Co., Ltd.

Horticultural, Analytical and Manufacturing Chemists, Millwall, LONDON, E.

ASTER Giant Ostrich Plume

This superb new strain of Aster produces magnificent flowers of great size and refinement and of the most beautiful colours. Under good cultivation the blooms may be grown to over six inches in diameter and without any tendency to coarseness. It is a most valuable variety for the garden on account of its free-flowering, bushy habit, whilst its very long stalks render it unequalled for indoor decoration. A splendid Exhibition strain.

TRANSPLANTED, WELL-HARDENED PLANTS

	Per 50	Per 100
6 separate colours, labelled	2/3	4/6
Pure White	2/-	3/6
Choicest Mixture, all shades	2/-	3/6

Carefully packed and Carriage paid.

Write for our List of Plants of Special Sorts of STOCKS, ANTIRRHINUMS, PANSIES, &c.

C. S. DANIELS & SON

NORTHFIELD NURSERIES

WYMONDHAM

NORFOLK

Summer Spraying.

CONTINUING our notes on sprayers and spraying we would draw the attention of fruit-growers to the necessity of using as fine a spray and as strong a spraying force as possible for summer work. For such subjects as the American blight only a strong



spray is able to force the killing fluid through the woolly material that acts as a natural protection to the sucking aphids. Another point to remember is that when spraying trees in leaf see that the under surfaces of the leaves receive the spray, as it is usually on the under or shady side of the leaf that the fungal parasites push out

THE "WARWICK" PATENT OF SPRAYER

into the air to liberate their spores. Again, spray foliage in the late evening or early morning, never in brilliant sunshine. As to sprayers we give an illustration of another type suitable for spraying low trees or bushes (to a height of about 12 feet) called the "Warwick," and manufactured by the "Four Oaks" Co. It has a capacity of six gallons, and is listed at £2 7s. 6d. It can also be used for white-washing walls, and seems to be an exceedingly convenient little machine for the owners of small gardens. Attention to spraying will keep trees in health and conduce to fruitfulness.

Notes.

THE March number of the journal of the English Board of Agriculture contains a useful article on narcissus cultivation. According to the writer, the cultivation of narcissi for profit may be undertaken by those occupying small holdings and allotments, and in conjunction with other crops they may be grown with "every prospect of yielding the grower a profitable return on his capital." The article deals with the elementary principles of bulb growing, dealing first with the growth of bulbs for sale as bulbs, and secondly as blooms. A balance-sheet is published giving the income and expenditure on an acre, showing an annual profit of £32 13s. 2d.

LATE spring frosts are much more harmful to plants than winter frosts, and are therefore held in greater dread by gardeners. The difference in effect between the one and the other depends upon the presence of

water in the tissues of the leafy shoots starting into growth. The cells, plump with sap during the day, are unable to keep their full complement of water when the temperature runs down to freezing. The water escapes into the air spaces between the cells, and there gets changed into crystals of ice. As a rule, the amount of injury depends upon the rate of thawing of this internal ice; if slow, little or no harm will result; if rapid, the water resulting from the thaw spreads throughout the air spaces and kills the tissues. This is why a warm morning sun following a night of frost in spring is calculated to do a considerable amount of harm to young shoots.

THE Kilkenny Horticultural Society sends us the schedule of its fifth annual exhibition of fruit, flowers, vegetables and honey to be held at the Court House, Kilkenny, on September 1st. There are 107 classes, with a generous list of prizes, including two silver challenge cups, presented by the hon. sec., Mr. S. A. Jones, of Gowran. One of these cups is for sweet peas in the amateur section. The entrance fee for each exhibit in the cottagers' classes is 1d. All exhibits are carried free from the railway station to the show grounds.

POTS for plant-growing are in use (or ought to be in use) in every home. But although so commonly used comparatively few people, outside the ranks of professional gardeners, really know how to use them. Because the pots are filled with earth many would-be gardeners imagine that "dirt" on either surface of the pot does not matter, because they unthinkingly imagine that earth and dirt are one and the same, whereas they are, of course, as different as is homespun wool from shoddy. A good pot is, and ought to be, kept porous, and nothing should be allowed to collect on either surface to interrupt the free passage of air.

PERRY'S SUPPLEMENTARY LIST OF PERENNIALS is an illustrated catalogue of new, rare, or specially attractive old plants not given in his general catalogue. A very interesting list, all the more valuable because of the full descriptions given in so many cases. Issued from Hardy Plant Farm, Enfield, Middlesex.

ASPARIGUS requires special conditions. It is a rank feeder, it requires good drainage and a good depth of highly-manured soil in which to grow well. Where these conditions are wanting at the start, after-cultivation fails to make it profitable. When planted properly it produces good crops for many years. Whether grown in single lines or in beds, in the good old-fashioned way, it must have deeply-trenched ground, heavily manured. As well as this, to keep it growing to perfection, it requires regular feeding with liquid manure and a monthly dressing of salt during the growing season. It also requires an annual mulching of good farmyard manure applied before start of growth. Where the land is of a heavy, clayey nature, sand and lime rubbish incorporated with it is beneficial. The seed may be sown at the end of the month in lines about eighteen inches apart, and the plants finally thinned to about the same distance in the lines, or even less. The time to transplant is when the growths first start,

usually the beginning of next month. Strong two year old plants are best to plant, but if three year old plants are at hand, so that there will be no delay in the operation (as the roots soon suffer out of the ground), these may also be used. If three year plants occasionally fail here and there, they have the advantage of bearing cutting sooner, and when the work of planting is done without damaging roots or delaying them out of the ground misses will be few. T. B.

At the great demonstration held last month at Wisbech for the testing of spraying machines, and at which all makes of sprayers were exhibited, both English and foreign, the Four Oaks Knapsack was awarded first prize of silver-gilt medal.

BROCCOLI—To have a supply of broccoli for cutting from November to June, the best time to sow seeds of the different sorts is the first week in May—Veitch's Autumn, Self protecting and Winter Mammoth for cutting in November and December; Snow's Winter White for cutting in January and February; Dickson's Main Crop for cutting in March and April; Victory for cutting in May and June. The seeds should be sown thinly and raked in with an iron rake that will cover the seed as deep as is required. In July plant them out two feet apart each way in ground that has been well manured. Keep them free from weeds, and take a walk through them occasionally during the winter, and any heads that are exposed bend a few of the leaves over them, or they may be pulled up roots and all and brought into a cool house or shade. In this way they will keep fresh twelve or fourteen days.

JOHN DEVINE, Kilworth.

COMBINATION PAVS. The "Indispensable" combines Hoe, Scuffler, and Rake—three essential gardening tools. Carriage free, P.O. 4s. 6d. J. Carroll Westwood, 200 Manchester Rd., Ince, near Wigan

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PATHS ALWAYS BRIGHT AND CLEAN.
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Growing and in *Showing*
Horticultural Exhibits.

* * * *Will Secretaries of local Horticultural Societies please send early notices of dates, &c., of forthcoming Shows.*



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Horticultural and Agricultural Association

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R. ALLINGHAM, Glencur, Banbridge } Secretaries
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TRIM

Agricultural and Horticultural Society

THE Committee of the above Society have fixed date for holding Show for Tuesday, 17th August, 1900.
PATRICK HEALY, Secretary.

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Polished Plate for Shop Windows.

Ornamental Glass of all Descriptions.

Horticultural Glass at Lowest Rates.

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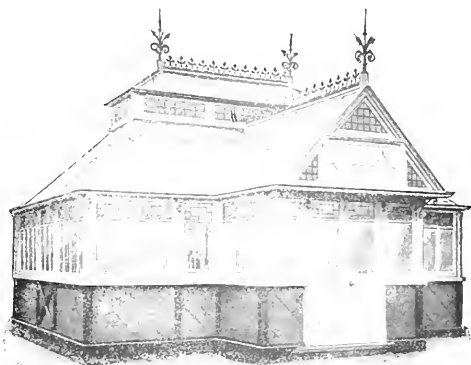
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50 yds. x 2 yds. @ 4 3		50 yds. x 4 yds. @ 8 6	
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Is. Lot.	Finest Plants.	Half-lot 6d.	s. d.	
40	Labellia, blue ..	1 0	12 Carnations, Show ..	1 0
30	Petunias, Prize strain ..	1 0	50 Lupins, Choice ..	1 0
12	Calceolarias, yellow ..	1 0	50 Featherfew, Golden ..	1 0
15	Calceolarias, brown ..	1 0	40 Gaillardia, Fine ..	1 0
15	Marguerites, white ..	1 0	30 Nicotiana Tobacco ..	1 0
15	Marguerites, yellow ..	1 0	100 Nasturtiums, Tall ..	1 0
15	Fuchsias, Prize ..	1 0	100 Nasturtiums, Empress ..	1 0
15	Coleus, extra ..	1 0	India, Dwarf ..	1 0
18	Dahlia, Cactus ..	1 0	50 Asters, Prize, Mixed ..	1 0
30	Musk, Giant ..	1 0	50 Stocks, Double, Mixed ..	1 0
12	Geranium, Mixed ..	1 0	50 Zinnias, Grand ..	1 0
12	Begonias, Mixed ..	1 0	50 Marigolds, Choice ..	1 0
40	Antirrhinum, Mixed ..	1 0	50 Phlox, Mixed ..	1 0
12	Tomatoes, Special ..	1 0	50 Chrysanthemums ..	1 0
24	Heliotrope, blue ..	1 0	5t Climbers, Crimson ..	1 0
25	Verbena, Grand ..	1 0	Flowers ..	1 0

1s. doz. **Geraniums, Prize Geraniums**, 1s. doz. 50 of the grandest varieties, double and single, all colours mixed, fine, strong plants, in bud and bloom, 1s. per doz.; 5s. 3s. 9d.; 100, 7s. carriage paid.

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Marguerites, White, for window boxes or beds, strong plants, 1s. doz.; 5s. 3s. 9d.; 100, 7s., carriage paid.

Bannister's Velvet Monarch Pansy, the largest Pansy in cultivation, blooms 3 to 5 inches across, marvellous colours and markings, large plants, in bud and bloom, 1s. 5 for 2s.; 3s. 2s.; 100, 5s., carr. paid.

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TOMATOES,
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Price Lists and Testimonials on application to Sole Makers—

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WHITE'S
SUPERIOR
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ABOL,

ABOLISHES

Green and Black Fly,
American Blight,
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For Garden and Greenhouse Use.

TRY IT and you will agree. "It acts like a charm." AN EXCELLENT

REMEDY FOR MILDREW.

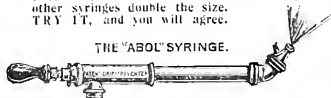
½ Pt., 1 - Pt., 1 G. Qt., 2 G. ½-Gall., 4 - Gall., 7 G.

"ABOL" SYRINGE

Best Sprayer.

Does more and better work than other syringes double the size. TRY IT, and you will agree.

THE "ABOL" SYRINGE.



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SOLE MANUFACTURERS—E. A. WHITE, Ltd.,
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Every Requisite for the Garden

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Seed Merchants

119 & 120 Capel St., DUBLIN

Once Used Always Used The 'PATTISSON' HORSE BOOTS



FIG. 1

Silver Medal Royal Horticultural Society.
HUNDREDS OF TESTIMONIALS.
The Field says: "As good as anything that could be devised."

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Soles of Best English Sole Leather Waterproofed with Motor Tyre Rubber Studs or Solid Rubber. Fig. 1 can be refitted repeatedly, equal to New Boots. Rubber Soles strongly recommended.



FIG. 2

RHODODENDRONS

CRIMSON, WHITE, PINK, 250 choice-named varieties, fine foliage, well budded for potting or planting. 1 to 1½ ft. — 1½ to 2 — 2 to 2½ — 2½ to 3 — 3 to 4 — 4 to 5 — 5 to 6 — 6 to 7. List of sorts and prices on application. Many thousands to offer. Standards in all sizes. All home-grown. Inspection invited.

F. STREET, Heatherside Nursery,
CAMBERLEY.

"ACME" WEED KILLER

For Destroying Weeds, Moss, &c., on Carriage Drives, Garden Walks, Roads, &c.

POWDER WEED KILLER

Dissolves Quickly in Cold Water

Size 4 No. 1 .. Sufficient to make 25 gallons .. 19/-
 of "No. 2" 33/-
 This "No. 1" 6/-

LIQUID WEED KILLERS

Strength 1 in 25 and 1 in 50. Prices on application

SOLUBLE PARAFFIN—mixes instantly with water and does not separate.

ARSENATE OF LEAD—for destroying all leaf-eating insects.

"FUMERITE" for destroying all ground vermin. To be dug into the soil.

EXTRACT OF QUASSIA
COMPOUND EXTRACT OF QUASSIA
AND SOFT SOAP INSECTICIDE

QUASSIA CHIPS
SUMMER SHADING, &c.

LIVER OF SULPHUR
CAUSTIC SODA, 98 per cent.
SULPHATE OF COPPER, 98 per cent.

Other Garden Chemicals

BONES, 1/2 inch, 1/4 inch, BONE MEAL

Prices and particulars on application

The Acme Chemical Co.

TONBRIDGE, KENT Ltd.

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PURE ICHTHEMIC GUANO.

The Most Reliable, The Richest Food, and the Most Natural Fertiliser.

Supplied in Tins and Bags 6d. to 20 Cwt. in quantities of 25 lbs. and upwards.



FAME'S FERTILISER.

Swift, Safe, and Sure.

Supplied in Tins and Bags 6d. to 20 Cwt. in quantities of 25 lbs. and upwards.

May be obtained from the principal Nurserymen, Seedsmen, Florists and Chemists, of GREAT BRITAIN.

The Sole Proprietors and Manufacturers,
WM. COLCHESTER & CO.,
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'EUREKA' WEED KILLER.

SAVES WEARY WEEDING.

50 gallons of mixed solution will kill all weeds on 200 square yards of paths, &c.

POWDER.

1 tin for 12 gallons solution (Free Tins 19 .. 25 .. and 6 .. 10 .. Cases)

LIQUID.

1 gallon 2 .. drum free
 1 .. 3 6 .. 9l. extra
 2 .. 6 6 .. 1 6 ..
 3 .. 14 .. 2 6 ..
 4 .. 25 6 .. cask 5 ..



'EUREKATINE'—The successful imitator.

'EUREKA' Insecticide, Lawn Sand, Heliofore Powder, Bar-leux Mixture, Worm Killer, Hayward's Summer Shade, &c.

SOLD BY AGENTS,
 Full list with booklet, "Chemistry in Garden and Greenhouse," sent post free by makers—

TOMLINSON & HAYWARD, Ltd., LINCOLN.

APRONATUS PONICUS.

What's this! A New Plant?
 No!

A NEW APRON!

Designed by a Gardener for Gardeners.

LOOK AT THE PRICE.



In Dark Blue "Ponicus" Towel,

1/9

Postage 3d. extra.

Or in Dark Blue "Ponicus" Serge of Everlasting Wear,

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Postage 3d. extra.

From Belfast—ALEX. DICKSON & SONS, Ltd., 55 Royal Avenue.
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The PARAGON PEA TRAINER

(PATENT)

CONSISTS of light iron FRAMES of special construction, with lines of training wire stretched between, supported at intervals by intermediate Standards. No trouble, always ready, and will last for years with only a few pence outlay for any necessary renewal of training wire. Made 4 ft., 5 ft. and 6 ft. high.

Extracts from some of latest testimonials:—
 "The Pea Trainers, in my opinion, could not be improved; they are perfect in every way. The Peas can be removed from the plants without difficulty, and the whole can be taken down and removed without loss of time."
 "I can thoroughly recommend your Pea Trainer, and I trust that this fresh Irish industry will, in the coming years, meet with the prosperity its invention merits."

—DUNDEAL.

"I am quite satisfied with your Paragon Trainers, and use nothing but them."
 —JERALT.



Supplied through Seedsmen and Ironmongers, or direct from—

The Paragon Pea Trainer Co.,
 Bridge St., Banbridge,
 Co. Down.

Try our new Trainers for English Beans and Raspberries.
 Write for Price List.

A Claim Proved!!

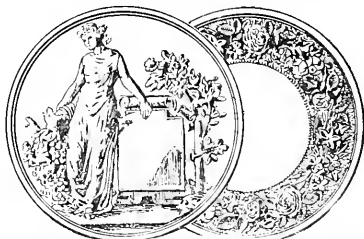
We have been claiming that—

The "FOUR OAKS" Knapsack

is the best knapsack in existence. This claim was substantiated on Thursday, April 22nd, at the Wisbech Spraying Demonstration, when, after exhaustive tests in competition with all other makes, English and Foreign,

The "FOUR OAKS" was awarded the

First



SILVER GILT MEDAL

Prize

FRUIT GROWERS PLEASE NOTE

Force is absolutely essential to effective spraying. It means penetration of the fluid into all the minute crevices where disease and pests breed. The "FOUR OAKS" Knapsack has more force behind the Spray than any other machine, British or Foreign

The "Four Oaks" Patent Knapsack Sprayer, No. 101 (British Made)

The Most Simple yet by far the best Knapsack Sprayer ever produced, and will last ten times as long as any other.

No rubber valves to perish or get out of order. All working parts outside.

The only Knapsack with force behind the spray.

We manufacture large Spraying Machines of every description. Send for Catalogue.

A Machine willingly sent on approval to any Gardener.

Manufactured only by the Inventors and Patentees:—

The "Four Oaks" Undentable Syringe & Spraying Machine Co. SUTTON COLDFIELD, BIRMINGHAM, ENGLAND

Send for Catalogue of Syringes, Spraying Machines, and other Horticultural Specialities. All leading Irish Seedsmen and Nurserymen act as our Agents and supply our Specialities.



Suitable for Spraying Fruit Trees and Trees of all kinds, Hops, Vines, Coffee, Tea and Cocoa, also Potatoes and other crops.

PRICE 45/-

Complete with "Four Oaks" Patent Spraying Nozzle, also Swivel Nozzle and Short Brass Tube with Stop Cock and a feet Best India-rubber Tube. Will give very fine, medium, or coarse spray as desired. Double Swivel Nozzle, 4 - extra.

LONG TUBES FOR SPRAYING TALL TREES.

"Four Oaks" Patent Bamboo Lance, 10 ft. 6in., with interior Brass Tube, Stopcock and Fittings - 17/6
6 ft. 6 in. Do. - 12/6
Strongly recommended.

Fruit Tree Caterpillars.

IT may be taken as practically certain that there is neither an orchard nor fruit garden completely free from some of the various leaf-eating caterpillars. These caterpillars do an enormous amount of damage, and it is to be feared that fruit growers do not yet fully realize the great effect caterpillars have in reducing the fruit crop and in affecting its quality. One of the commonest and most destructive of the caterpillars is that of the Winter Moth, and for destroying this, as well as all other leaf-eating larvae, Professor Theobald (in his recent book, "Insect Pests of Fruit.") says that Swift's Arsenate of Lead is far the best substance to use. The first spraying should have been done as soon as the leaves and buds appeared, and, says Professor Theobald, "a second spraying is often necessary in the case of apples and pears—this should not be later

than ten days after the blossom has fallen, and at this time any remaining Winter Moth, Mottled Umber, and March Moth larvae are poisoned, and also the Codling Moth prevented, and many other leaf-eating forms at the same time are destroyed." The outstanding advantages of Swift's Arsenate of Lead are the certainty that it will not damage the foliage, as does Paris Green, and that it stays on the leaves for weeks, thus ensuring a poisonous deposit during the time of attack by insects. There has been a very large quantity of Swift's Arsenate of Lead already used this season all over Ireland as the result of the exceptionally good effect which followed its use for the last two or three years in the large fruit growing districts of the United Kingdom. The sole Irish agent is Mr. D. M. Watson, Horticultural Chemist, 61 South Great George's Street, Dublin. Prices and sizes are given in advertisement on this page, and any further information can be had from Mr. Watson.

For Destroying & CATERPILLARS

On APPLES, PEARS, GOOSEBERRIES, CURRANTS, ROSES,
and all other Trees

SPRAY WITH SWIFT'S ARSENATE OF LEAD

IT will supersede all other similar Insecticides, and it has now a very large sale amongst the most up-to-date Fruit Growers in the great fruit-producing districts both in Ireland and England. No caterpillar can exist on foliage which has been sprayed with Swift's Arsenate of Lead. **Experiments made in Ireland with Swift's Arsenate of Lead have demonstrated its superiority** over Paris Green, London Purple, &c. Full directions for use sent with all orders. See Department's Leaflet No. 85.

It kills ALL leaf-eating Caterpillars without exception.

Suitable for all trees.

It sticks on the leaves.

Rain will not wash it off.

No danger of burning or scorching the leaves as Paris green does.

Tends to produce better and larger fruit.

Used by many Irish and English Fruit Growers in last two or three years

PRICES—

1lb. Tins	...	...	at 1s. per lb.	20lb. Wooden Pails	...	at 10d. per lb.
5lb. Wooden Pails	...	..	1s. "	50lb. " Kegs	...	.. 9½d. "
10lb. " "	...	..	10½d. "	100lb. " "	...	.. 9d. "

All kegs and tins Free. Carriage paid on 50 lbs. and upwards.

MANUFACTURED BY MERRIMAC CHEMICAL COY., BOSTON, U.S.A.

Sole Irish Agent—

D. M. WATSON, Chemist, 61 Sth. Gt. George's Street, Dublin

'Phone, 1971.

Write for Booklet of Testimonials, &c.

Summer Bedding.

Horticultural Societies.

Royal Horticultural Society of Ireland.

THE "bedding-out" time has again come round, and professional gardeners will have grown most of the plants required for the purpose, but meritorious novelties are worth adding; and losses of stock from causes outside the gardener's control require to be replaced. It is, perhaps, unnecessary to warn professional gardeners, but amateur enthusiasm is oftentimes nipped in the bud through buying scraps or worthless seedlings merely taken from the seed bed or cutting box and advertised post free at prices which would not pay even the postage of satisfactory plants. It is the nurseryman's business to nurse and despatch plants with an established nucleus—the purchaser to reap the results in due season—not to be obliged to coddle poor plants through tedious months whilst the summer goes by. A reliable nursery is therefore a necessity to both professional and amateur, and a useful booklet about Summer Bedding Plants may be had post free from Messrs. Watson & Sons, Clontarf Nurseries, Dublin. At this firm's bedding plants have been transplanted from the seed-beds or grown singly in pots, and the enormous quantities grown secure the advantage of tempting prices to those who send to Clontarf for their plants. Packing is well done, as Messrs. Watson do not believe in growing good plants and suffering them to be spoiled in transit; and a feature of the Clontarf business is the close attention to the little details of a client's requirements which induces him to become a customer.

Our principal public parks annually display numerous specimens of Messrs. Watson's plants.

At the monthly meeting of the council, held at the society's offices, 5 Molesworth Street, Dublin, on the 14th ult., the following members were present—*Viz.*, Messrs. R. Anderson, G. Watson, J. McKellar, J. McDonough, J. Wylie-Henderson, D. Houston, M.L.S., F. W. Moore, M.R.I.A., and D. L. Ramsay, J.P., presiding. The balance-sheet of the spring show was submitted, showing an approximate balance of £20 to credit, and it was unanimously resolved that the best thanks of the council were due to the Royal Dublin Society and its officials, whose cordial co-operation conduced to the successful results, a vote of thanks being also accorded to those members of the Irish Gardeners' Association who kindly acted as stewards. The council accepted, with thanks, the offer of the Commissioners of Merion Square for the holding of the summer show in those spacious grounds on July 20th, and it was hoped that His Excellency the Lord Lieutenant and the Countess of Aberdeen would honour the show with a visit. A vote of condolence was passed with the family of the late Andrew Armstrong, Esq., who had been a liberal and consistent supporter of the society, on their bereavement. Messrs. Pennick sent up some nice specimens of hardy flowers including some glorious sprays of Rhododendron Pink Pearl, from their Delgany Nurseries, for inspection, and were duly thanked for the exhibit. The following new members were elected:—Mrs. More

GREEN'S MOWERS and ROLLERS

STAND PRE-EMINENT!

Known and appreciated throughout the World

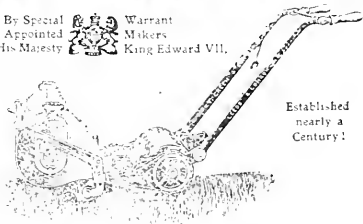
Thomas Green & Son, Ltd.

Smithfield Iron Works, Leeds, and New Surrey Works, Southwark St., London, S.E.

Sold by all Ironmongers Please write for Price List No. 21.

Highest Awards, Royal Botanic Society, 1905-6; Royal Horticultural Society, 1905, 1907, and 1908

By Special Appointment To His Majesty King Edward VII.



Established nearly a Century!

MOTOR MOWERS Upwards of 200 have been supplied



This "Apparatus" has obtained repute both in Large and Small Gardens.

Write for Dis-cou-nts and Price Lists.

Manufacturers of PLAIN AND ORNAMENTAL SOUTING.

HOT WATER PIPES, BOILERS, PUMPS, LAMP POSTS, VENTILATING GEAR.

THOS. W. ROBINSON, LTD.,

Boiler and Pipe Manufacturers,

STOURBRIDGE.

£600 PER ACRE is the gross return from an English plot of land worked under the French method of intensive culture, by the use of Cloches or Bell-glasses.

FOR THE PROPAGATION OF EARLY VEGETABLES, &c.

Pilkington's Glass Cloches

SHOULD BE USED

Of superior quality and made either with or without knobs in sizes up to 20-in. diameter.



Carrriage paid on lots of 50 or over to Dublin or Belfast.

Of all Dealers in Garden and Farm Requisites, or direct from . . .

Pilkington Bros., Ltd., Glass Works: ST. HELENS LANCs.

THE LEADING HORTICULTURAL MANURE
Cross's Garden Fertiliser

Occupies the first place with Horticulturists
One cwt. will go as far as 1½ cwt. of most
Garden manures

Other essentials for the Garden and Greenhouse—
CROSS'S CLUBICIDE

CROSS'S NICOTINE VAPORISER
CROSS'S ORGANIC TOMATO GUANO

To be had from your Seedsman

Manufactured by

Alex. Cross & Sons, Ltd.
19 Hope Street, GLASGOW

IMPORTANT TO
**Gardeners and
Fruit Growers**



“NIQUAS”

(Registered).

The most successful Non-poisonous Insecticide
of the day.

ITS ADVANTAGES ARE—

Certain death to all Insect Pests.
No possible injury to the most delicate Plant, Flower or Foliage.
It is by far the cheapest Insecticide known. One pint makes ten
to twelve gallons for Turnip, Black and Green Fly, &c., whilst RED
SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by
using “NIQUAS,” about double the strength required for Fly.

It is most successfully used by Orange and
other Fruit Growers in the Colonies, &c.
PRICES Pint, 1-; Quart, 1/9; Half-Gallon, 3/-; Gallon, 5-;
Kegs, each Five Gallons, 22/6; Ten Gallons, 42/6.

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Registered Trade Mark

IMPROVED METAL



**VAPOUR CONE
FUMIGATOR . .**

At Greatly Reduced Prices.

INTRODUCED 1885.

This well-known invention for the entire eradication of all pests
infesting vegetation under glass is now manufactured in a more
simple and reliable form. The small candle, which will be found
packed with each cone, has only to be lighted, and placed on the
ground in the centre of the Cone Frame, to produce immediate
results. Nothing on the market can equal it for efficacy and
cheapness.

Cone No. 2, for a well-secured house of cubic 2,000 to 2,500 feet,
price 1/- each. Cone No. 2, for a well-secured house of cubic 1,000
to 1,200 feet, price, 8d. each. Cone No. 1, Carbon, for frames
cubic 100 feet, price 6d. each. Full directions accompany each Cone.

Ask for a List of Testimonials, of which some hundreds have been
received from the leading gardeners in the Kingdom.

Registered No. 11629.

FOR



**All Glass Structures
THAT REQUIRE
OUTSIDE SHADING**

The only Genuine, Original, and
Improved Article. It has been in
general use for **over 30 years**

Be sure to ask for
**SUMMER CLOUD
SHADING**

And see that you get it!

Sold by all Dealers in Horticultural
Sundries throughout the Kingdom,
in Packets containing 8 ozs., for 100 feet of glass, 1-; 24 ozs., 2/6;
and in Bags of 7 lbs., 10/6; 14 lbs., 20-.

MANUFACTURED BY

CORRY & CO., Ltd.

13 and 15 Finsbury St., LONDON, E.C.

SHANKS
LAWN
MOWERS.

**STANDARD MACHINES FOR HAND, PONY, OR HORSE
POWER.**

Fitted with Steel Axle Springs

SIZES
10 inches
to
48 inches.



Also
SMALL
MOWERS,
6, 7, and 8
inches.

“THE CALEDONIA” Light ROLLER MACHINE
with Patent Axle Springs.

SIDE-WHEEL MOWERS.

“The Talisman”
“The Britannia”
and
“The Britisher”



Light and Cheap.
WITH or WITHOUT
GRASS BOXES.

ROLLERS FOR HAND, PONY, OR HORSE.

Also Petrol Motor Mowers, the most powerful on the market.
Of all Ironmongers and Seedsmen.

O'Ferrall, Kildangan Castle, Monastercavan; Miss Gaisford, The Orchard House, Maynooth; Lady Sandeman, Ardmore, Youghal; Mrs. Ed. Mooney, Leixlip Castle; Miss Osborne, Cowslip Lodge, Bettystown, Drogheda; Messrs. Ed. W. Eyre, City Treasurer's Office, Dublin; C. G. McCarthy, Wilton Place, Dublin; Col. Hall-Walker, Tully House, Kildare; F. H. Greene, Ashfield Park, Terenure; Herbert Milley, Chetwynd, Bray; G. C. Stapleton, Wyvern, Killiney; Mox Greene, Private Secretary to the Lord Lieutenant; Major Thackeray, R.M., The Curragh; and as practical members—Messrs. J. Paine, Geashill Nurseries; J. Campbell, The Gardens, Ballynagall; and Thos. Shortreed, The Gardens, St. Wolstan's, Celbridge.

Clare Horticultural Society.

THE above society's summer show will be held in Ennis on July 28th, and a very fine list of prizes has been framed. The competitions are open to the Co. of Galway and province of Munster. H. Bill, hon. sec., Lifford, Ennis.

THE financial success of the late spring show held by the above society was the subject of much jubilation at a meeting held on May 15th, and a very fine schedule for a show to be held about the middle of April next was very enthusiastically passed.

Naas District Horticultural Society.

THE seventh annual show of this society will be held on the 4th of August next, and its prize schedule is now in circulation. There are cottager, amateur and open classes.

Garden Notes.

TOWARDS the end of last month the trees and shrubs began to rival one another in making our garden look beautiful. When the fruit trees began to bloom, the more or less plain, dull garden began to look like fairyland. The promise of the summer came with the unfolding of the apple blossoms. Then we began to realise that the leaves on the trees were broader and greener, till with the bursting of the laburnum and the lilac buds we knew that summer had come. The earth became dry and thirsty, the plants began to straggle, when a long, steady rain came, washing the dust from the leaves, revealing glorious freshness of green, and opening up the pores in the earth and flowers, liberating their pent up fragrances.—A.

As the American gooseberry-mildew is liable to make its appearance from May onwards great watchfulness must be observed in order to detect it in its very earliest stages. It spreads quickly, and the essence of treatment is to attack it early. We need not describe the disease or repeat the life history of the fungus, as these have already appeared in our pages in past years. It will be remembered that there are two stages of the fungus, a summer spore stage and a winter or resting spore stage. The winter spores are germinating about this time of the year and the fungus beginning its raids upon the twigs. Young, sappy shoots are more liable to suffer than firmer, slow-growing shoots, and hence

quick-growing varieties, such as Keepsake and Crown Bob, may be more easily infected than a slow-growing variety like Whitesmith. For the same reason bushes on good, deep, humid soils are more readily attacked than bushes on shallow soils or stiff, clayey ones. If the disease appears the affected parts should be pruned off at once, and with as little shaking as possible so as not to dislodge spores. They should be directly transferred (without even placing on the ground) to a vessel containing a disinfectant, as they are highly infectious. As a protection the bush and immediately neighbouring bushes should be sprayed with a mixture of fresh liver of sulphur and water (1 oz. of sulphur to 2 gallons of water), repeating the operation in a day or two if the sulphur does not well cover the shoots. This mixture is for early work; after the end of July it may be made stronger. A little soft soap added to the mixture will increase its power of adhesion. If the sulphur can be made to adhere to the twigs there is no doubt that much good may be done in the way of checking fungal growth. The great objection to the removal of the tips of shoots early in the season is, of course, due to the fact that buds normally dormant will break into shoots, and these fresh, sappy growths are, as we have already noted, very liable to be attacked by the disease. But in an ordinary year there is little fear of buds breaking after mid-August. Market growers should obtain the leaflets on this subject issued by the Department of Agriculture.

BEGIN to look out for the caterpillars of the saw-fly, as their ravages have already begun. A good, safe wash to spray the leaves with is arsenate of lead, which may be used without danger to within three weeks of gathering the fruit. The saw-fly lays its eggs first in April or May on the under surface of gooseberry or currant leaves, and in about a week the caterpillars are hatched. They start feeding at once on the leaf, piercing it with numerous small holes; these leaves should be picked immediately and burned with the caterpillars on them, for if left the latter soon travel over the bush, eating greedily. There are usually three generations during the year. The last brood spin their cocoons under ground and rest during the winter, not pupating till the spring. To prevent any return of the saw-fly the soil under affected bushes should be removed to about three inches, and buried deeply during late autumn or winter and replaced with fresh soil and manure.

To gardeners, and especially to amateurs not requiring a larger machine, the "Abol" syringe can be recommended. When purchasing, however, see that you get the newest pattern, provided with the "patent spray nozzle" and drip preventer or protector. The latter will be much appreciated by user when at work with caustic solutions, as it saves the hands from coming into contact with the fluid, and at other times prevents the disagreeable wetting of the hands and arms that so frequently takes place when using an ordinary syringe. The No. 5 size is recommended to the average amateur; with this should be purchased the extra fine and the coarse nozzle, also the bend with which the under sides of the leaves can be so conveniently sprayed, as pointed out by Dr. Browne in writing about roses.

Knapsack Sprayers.

IN a former issue we referred to the efficiency of the "Four Oaks" spraying pumps and nozzles, and are therefore interested to learn that at the recent Wisbech trials of spraying machinery the Knapsack



machine of this company was given the premier award. The power of the machine and the structure of the nozzle resulted in the production of a spray the force and firmness of which elicited admiration from the critical onlookers. We are able, through the courtesy of the manu-

facturers, to give an illustration of this "Knapsack" sprayer, that, from Press accounts of its performances, seems to have struck the fancy of experts. It has no rubber valves (a great improvement in our opinion), being of brass and ball formation, and both the pump and the air-vessel are outside.

We are told that the "Four Oaks" Co. is bringing out a special pattern Knapsack for Ireland, to be called "The Irish Gem," and that it is to be specially adapted for Irish growers and excellent for potato spraying. Mr. D. M. Watson, of South Great George's Street, Dublin, is appointed the Irish agent, but it can be ordered through any Irish seedsman or ironmonger. We have no information, however, as to the price, but those intending to buy such a machine this season will do well to write to the manufacturers or to Mr. Watson and ascertain particulars.

Notes.

THE members of the Dublin Seed and Nursery Employees' Association paid a visit on Saturday, the 22nd of May, to the gardens at Ardlui, Blackrock, where they spent an enjoyable afternoon wandering along the delightful walks and lingering beside the many charming beds of late spring flowers that form quite a feature of these well-arranged and carefully-kept gardens. Under the escort of the head gardener, Mr. Baker, the party was conducted through the pleasure grounds, plant houses, and fruit and vegetable gardens. After the acceptance of the much-appreciated hospitality (the day was warm and the cyclists thirsty), kindly given by Mr. Mitchell, the owner of Ardlui, the party returned to town very well pleased with themselves and everybody else.

THE members of the Dublin Naturalists' Field Club visited last month the Delgany Nursery grounds of Messrs. Pennick & Co. Mr. Jones, courteous and energetic as usual, conducted the party, and much interest was taken in the various departments, especially in propagating grounds and the rhododendron garden.

At the Temple show held in London last month Messrs. Alex. Dickson and Son were awarded the silver cup for their exhibit of tulips, those in the Darwin section being particularly fine.

AMERICAN GOOSEBERRY-MILDEW IN ENGLAND.—It has been reported to the Kent County Council that 2,176 acres of gooseberries in the county are infected with this pest. The authorities have power to destroy the bushes if they decide on that course, but they must give compensation to the owners.

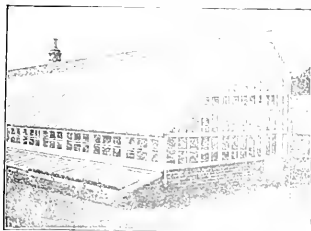
WITH the coming of summer the villa gardener lightly turns on thoughts of bedding, and here is Messrs. Wm. Watson & Son's dainty little catalogue to hand to help him in the selection of the plants that are to contribute to his own delight and the admiration of passers-by. The booklet contains descriptive lists of all the well-tested plants for bedding-out purposes, as well as for hanging baskets for the decoration of porches, verandahs, &c.

SLUGS AND SNAILS.—To prevent herbaceous plants from being harmed, especially the young, choice plants, traps must be set for slugs and snails. A sprinkling of soot or lime at night on the soil around the plants will help to keep off the attacks. The safest way is to attract them by small heaps of brewer's grain, and afterwards kill them by dropping them into brine.

LAWNS.—To keep a lawn in good condition the grass should be cut regularly. In cutting do not crop too close, which method leaves the roots too exposed to the drying effects of the sun. It is as well to leave the cut grass on the surface of the lawn, being a protection from excessive evaporation, while also making an excellent mulch. At the beginning of the season a top dressing of bone meal and wood ash in equal parts by weight, sprinkled evenly over the surface, with a good heavy rolling, will make a good start for the year. If watering is done at all during the year let it be thorough, for a slight wetting of the surface is harmful. If the lawn has been neglected it will, without doubt, be infested with one or more of the following weeds:—Dandelion, plantain, dock, sorrel, or moss. The first three are villains, and no cutting off their heads with a bit of their roots will do. The whole plant must come up (tools can be bought for this purpose). The holes should be then filled with loam, and a sprinkling of lawn seed mixture put over the bare spot. A remedy given, and said to be effective, for destroying these plants without disturbing the soil, is to cut off the crowns and place over the cut surface salt, or three drops of sulphuric acid, or green vitriol, but in this there is the probability that harm may be done to the grass in the immediate neighbourhood of the operation. Sorrel and moss are a sign of sourness and bad drainage. A good dressing of lime annually will correct this. The lime stimulates the growth of the grass, which soon crowds out the sorrel and the moss.

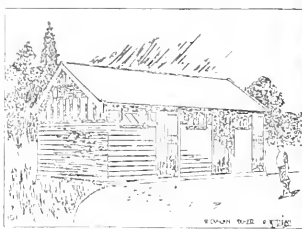
LARGE bunches of different coloured anemones of the St. Brigid strain were received in fine condition from Mr. G. Roche, of Gowran Castle Gardens, early last month. They were of extra large size and of most gorgeous blended shades of reds and blues. Placed in bowls throughout the house they kept their freshness and beauty for over a week. Every one was charmed with them.

WM. DUNCAN TUCKER & SONS, Ltd. "Anti-Drip, London"



Conservatories, Ranges, Vineries, Ferneries, Stoves, Pits, Plant-houses & Green-houses of all descriptions. Portable Buildings for every purpose

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SMITH'S 'PERFECT' WEED KILLER (Powder and Liquid)

LIQUID.—Prices:

Gal.	S.	d.	Gal.	S.	d.
1 gal.	2	0	2 gals.	4	12
2 gals.	3	9	10	0	14
3	5	6	12	0	17
4	7	0	15	0	2
5	8	0	17	0	5
6	9	6	20	0	8

40 gallons, £2 10 0

One Gallon makes 25 Gallons for use. Packages extra, but allowed for on return. Carriage paid on 8 Gallons.

Irish Agent

An Irish Testimonial.

Clontaragh,

Next-on-Mount-Kennedy, Co. Wicklow.

I obtained several tins of Smith's Patent Weed Killer Powder, and used the preparation last year on walks and avenue here. Where the Powder was used all weeds were destroyed, and the walks kept perfectly free from weedy growths for the season.

E. St. G. DEANE,

Commander R.N. (retired), I.P. for Co. Wicklow

POWDER.

A Scientific Triumph! Nothing like it ever seen before! Immediately Soluble in cold water!

All Tins Use No Return Envelopes

Tins	Content	Price	Carriage
1	1 lb.	0 2 0	0 0 0
4	4 lbs.	0 7 0	0 0 0
12	12 lbs.	0 12 6	0 0 0
20	20 lbs.	0 17 0	0 0 0
40	40 lbs.	1 8 0	0 0 0

Carriage paid on 8 Tins

Boxed extra. 1 Box is extra

Phone No. 1271.

Write for Booklet of Testimonials, &c.

D. M. WATSON, Horticultural Chemist, 61 Sth. Gt. George's St., Dublin



FRENCH GARDENING CLOCHES, Mats, and all necessaries.

Write for particulars

THE FRENCH CLOCHE CO., Caxton Hall, Westminster.

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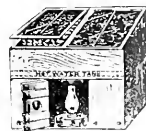
The First and still the Best Very best materials only used Prices from 10 G. Catalogue Free Thousands Sold

We challenge comparison. Amateur Propagative Fittings, Heating Apparatus, Garden Sundries, Syringes, Sprayers, Bell Glasses, &c.

C. TOOPE, F.R.H.S., & SON

Horticultural Engineers

Stepney Square, Stepney, LONDON, E.



Weeds Killed: Grass Invigorated by

"CLIMAX" LAWN SAND

When applied during dry weather daisies and other weeds are destroyed and a fine growth of grass quickly covers the places occupied by disfiguring weeds. Thousands of weedy and poor Lawns have been transformed by Climax Lawn Sand. Why not yours? Try it now. 7lbs. 2s., 14lbs. 3s. 6d., 28lbs. 6s., 56lbs. 11s., 112lbs. 20s. Carriage paid. Sample Tin 1s. 3d., post free.

PROTECT YOUR PLANTS

From Slugs, Crabs, Caterpillars, Ants, Wireworm, and the Domestic Cat

By ALPHOL

A non-poisonous Manure, deadly to every creeping thing, yet does not injure the foliage of plants. Testimonials on application. 7lbs. 2s., 14lbs. 3s. 6d., 28lbs. 6s. Carriage paid. Sample Tin 1s. 3d., post free.

On Garden Paths, Carriage Drives, &c.

By "CLIMAX" WEED KILLER

ONE APPLICATION KEEPS Down every growth for 12 months. No hoeing or weeding needed. PATHS ALWAYS BRIGHT AND CLEAN. No. 1 Tin to dress 100 square yards, 2s. 2 Tins 3s. 6d. Post free. No. 2 Tin to dress 400 square yds. 6s. 6d. 2 Tins 12s. 6d. Carriage paid.

BOUNDARY CHEMICAL CO., Ltd. Cranmer St., LIVERPOOL



DANYSZ VIRUS is not a Poison, but DESTROYS

RATS & MICE

Harmless to Human Beings, Domestic & other Animals, & Single Tubs, 2s.; Three Tubs, 6s.; Post Free from—

DANYSZ VIRUS, Ltd., Box 469 83, Leadenhall Street, London, E.C., and of all Chemists.

Answers to Correspondents.

DAFFODILS ("Tryo").—(1) We gave a note on this subject last month. The article there referred to ought to suit your purpose. We know of no book dealing with that side of daffodil culture. (2) Preserving Fruit. We published in early numbers of this journal articles on this subject, written by an expert. Write to manager at this office.

FLOWERING SPRAYS OF TREE ("Woodpark").—Maple.

DISEASED BRANCH OF APPLE ("W. H. B.").—Canker. If the affected branches are small cut away; if large cut out diseased area down to healthy wood, and smear wound with tar to protect from fresh infection.

MARKET INFORMATION ("J. C.").—We are making enquiries, and will communicate information by post. As to prices, these vary so much that present rates might be misleading.

HORTICULTURAL SHOWS

Important to Exhibitors

THE first instalment of a series of Articles intended for the guidance of Exhibitors at Irish Horticultural Shows, and written by *Experts*, appears in the present issue of IRISH GARDENING. These Articles will be continued during the months of July and August.

The Articles will explain clearly the *points of perfection* to be aimed at, both in

Growing and in Showing
Horticultural Exhibits.

*. Secretaries of local Shows are requested to make the subject of above notice known to their members. The series is intended to help forward the work upon which local Societies are engaged, and to give the best possible hints to intending Exhibitors.

Answers to Correspondents—continued.

FLAME FLOWER ("T. G.").—(1) Yes. They love a cool, moist situation with a north aspect. We are told that they show splendidly on the face of a yew hedge, and produce a grand effect when in flower. (2) Cabbage. Any of the dwarf spring varieties of the Ellam type may be sown. You are too late for parsnips. (3) With respect to sowing the seeds of the trees named, it is late, but send us particulars as to soil, aspect, &c., and we will reply by post.

ACACIA ("Antrim").—This specimen was overlooked. Apologies.

CATERPILLAR ("Constant Reader").—The name of caterpillar sent, discovered on rose foliage, is *Crocallis lingmaria*. Being uncommon, it has been handed over to the natural history department of the National Museum.

WILD GARLIC ("S. M. B. McL.").—With regard to the eradication of this weed, we are afraid that the best we can do is to give you, as advice, the instructions of an old gardener to his apprentice under similar circumstances regarding a troublesome patch of another kind of weed—"You are to go out, my boy, every Saturday, and, wet or fine, punctually at 11 o'clock, start cutting down every shoot of that devil's own weed that has shown itself above ground, but mind, you young rascal, be sure to start exactly one hour before noon and on the day following Friday's fast."

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BY IRISH WORKMEN.

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ALL KINDS OF MAGAZINES,
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BECKER BROS.

PRICES—
2/5, 2/2, 2/7,
1/10, 1/8, 1/6,
1/4, 1/2.

TEAS.

PRICES—
2/5, 2/2, 2/7,
1/10, 1/8, 1/6,
1/4, 1/2.

8 Sth. Gt. George's St.
AND 17 Nth. Earl St. Dublin.

Miscellaneous Section

TO-DAY !

AND FOR

YEARS AND YEARS PAST

The "XL-ALL" Specialities are and have been the best on the Market. Where is the earlener who does not pin his faith to one or the other of these celebrated Insecticides or Fertilisers?

"XL-ALL" FERTILISER has pleased all who have used it. The sales of "XL-ALL" FUMIGATOR prove that it is more popular than ever.

"XL-ALL" LIQUID NICOTINE INSECTICIDE is always spoken of by gardeners and growers as the most readily to be used. It kills all insects and weeds.

"XL-ALL" WEED KILLER, used once a year, no weeds can live. RICHARDS' ARSENATE OF LEAD for all leaf-eating insects. CUCASA (fungicide), the first preparation of copper ever offered to gardeners.

Please ask your NURSERYMAN, SEEDSMAN, or FLORIST for a copy of my small pink list, giving particulars of these and many other "XL-ALL" Preparations, which can be obtained from the Horticultural Trade throughout the world.

G. H. RICHARDS

MANUFACTURER AND PATENTE

234 Borough High Street, LONDON, S.E.

THE SCOTCH FLAME FLOWER

(*Tropaeolum Speciosum*).

I can supply extra strong pots of this popular climber at 5/- per dozen, with directions for planting, 100 different named Rockplants, for any position my customer likes to name, for 28/6; 50 for 14/6; 25 for 7/9; from pots or ground. Send for List.

Wood's Plant Club Label is the best permanent metal label for Bulbs and Border Plants, Shrubs, &c.

J. WOOD, Boston Spa., S.O., YORKSHIRE.

IF YOU HAVE A GLASS ROOF THAT LEAKS, A Conservatory to repair, or any kind of glazing work to be done, CARSON'S PLASTINE will save money, time, worry and annoyance consequent on the use of ordinary putty, which cracks, crumbles, and decays. It saves the expense of constant renewals. Carson's Wood Preservative in green and brown, for Palings, Trellis Work, &c. The best paint for Greenhouses is "Vitrolite." Write for Catalogue. CARSON'S, 22 Bachelor's Walk, Dublin.

ABSOLUTELY UNEXCELLED!

ALL from selected Strains; Strong, Healthy, Transplanted. Satisfaction Guaranteed. Asters, Stocks, Petunias, Lobelia, Golden Feather, Dianthus, Phlox Drummond, Pansies, 4d. dozen; 2s. 6d. 100. Cauliflower, Celery, 1s. 6d.; Leeks, Parsley, 8d. 100; Vegetable Marrows, Tomato, and many other varieties of plants. Lists free on application. 3s. Post Orders Free. Extra Plants with Rail Orders, carefully packed. Carriage Forward.—HAMMOND, Nurseries, SHILLÉACH.

TOMATO PLANTS

"Stirling Castle" and Carter's "Sunrise," well seasoned for the Greenhouse, also for Outside; 12, 1/3; 24, 2/-; 50, 3/-; 100, 5/-; 500, 20/-; 1,000, 30/-. Carriage paid on orders enclosing this advertisement. TOMATOES SUPPLIED

ELIE MAHY, Expert Grower GUERNSEY

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TRAINING IN—

Agriculture . Creamery Management
Horticulture . Poultry Fattening . . .
Forestry . Cheese-Making . . .

Persons who desire to attend courses in the above subjects at any of the Department's Institutions during the year, 1909-10, should make early application to

THE SECRETARY,

Department of Agriculture and Technical Instruction, DUBLIN

LANDSCAPE GARDENING

DESIGNING, Laying out and Planting of New and Renovating of Old Gardens. The Making and Planting of Rock Gardens, Rockeries, and Pergolas a Speciality. Plans Prepared. Estimates Free.

RICHARD C. McM. SMYTH

Mount Henry

Dalkey, Co. Dublin

ELECTROPLASM (Complete Fertilizer).—Used in the London Public Parks. Sold in tins, 6d. and 1s.; and bags, 7 lbs., 1s. 6d.; 14 lbs., 2s. 6d.; 28 lbs., 4s.; 1 cwt., 15s., carriage paid in U.K. If not stocked by your seedsman, apply Sole Makers—JOS. ROBINSON & CO., LTD. (Est. 1828), 10 Crooms Hill, Greenwich, S.E.

SALT.

Gardens and Orchards are much improved by using Ground Rock Agricultural Salt. For particulars apply FLOWER & McDONALD, 14 D'Olier St., Dublin.

LAWN MOWERS.—All makes. Lowest rates. Repairs to Lawn Mowers. Latest and only up-to-date Automatic Machinery used, under supervision of Lawn Mower Specialists. Machines sent for and delivered. Estimates given, lowest rates.—THE DAIRY ENGINEERING COMPANY OF IRELAND, 21 and 22 Bachelor's Walk, Dublin. Telephone—012. Telegrams—"Experience," Dublin.

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M. R. LEWIS MEREDITH, F.S.I.; F.R.H.S., undertakes all branches of Landscape Gardening—Renovating Old, Designing and Planting of New. Artificial Water, Rock and Wall Gardens a speciality. Estimates Free.

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IS CERTAIN DEATH to all Pests infesting plants under glass, &c. Simple to use, no apparatus required. In Boxes to fumigate 1,000 cubic feet, 6d.; 10,000 cubic feet, 3s. 6d. each. Obtained of Seedsmen and Florists; if unobtainable apply direct—

WM. DARLINGTON & SONS,

Wholesale Horticultural Sundriesmen, HACKNEY, LONDON, N.E.
Trade Terms and Catalogue of Sundries upon receipt of Business Card.



SHOWS.

EAST WICKLOW
HORTICULTURAL SOCIETY

THE Annual Show will be held at Greystones, July 28, 1906. Silver Plaque for Best Nurserymen's Display. Challenge Cups for Roses and Sweet Peas Amateur Section open to All Ireland. Schedule on application to Hon. Secretaries, Greystones.

BANBRIDGE

Horticultural and Agricultural Association

THE Annual Show of the above Society will be held on Tuesday, August 24. Opening Ceremony, 12 noon. For Schedules and Entry Forms apply to the Secretaries—

R. ALLINGHAM, Glencar, Banbridge } Secretaries
J. GORDON, Solicitor, Banbridge }

NAAS DISTRICT
HORTICULTURAL SOCIETY

THE Annual Show will be held at Naas, on Wednesday, August 4th, 1906. Classes for Roses and Sweet Peas open to all Ireland. Silver Cup, presented by the Countess of Mayo, for best Nurserymen's Exhibit. Schedules from MRS. HARRY FARRELL, Hon. Secretary, NAAS.

Clare Horticultural Society

ENNIS, JULY 28th

JONES' CHALLENGE CUP and other valuable Prizes; open to Province of Munster and County Galway. Hon. Sec., H. BILL, Lifford, ENNIS.

ROYAL ULSTER
AGRICULTURAL SOCIETY

HORTICULTURAL SHOW, to be held in conjunction with Horse Show, Balmoral, Belfast, July 22, 23. Competition in all classes confined to Amateurs. Entries close Wednesday, July 14. KENNETH MACRAE, Secretary, Balmoral, Belfast.

ATHLONE SHOW .: August 19th

SECTION IV. OPEN
TO "ALL IRELAND"

CUPS AND PRIZES

For Vegetables, Fruit, and Flowers

Entries close absolutely July 31st

Full particulars from—
W. J. DONNELLY, No. 1 Northgate St., ATHLONE

— TRIM —

Agricultural and Horticultural Society

THE Committee of the above Society have fixed date for holding Show for Tuesday, 17th August, 1906.
PATRICK HEALY, Secretary.

WINDOW GLASS.

Polished Plate for Shop Windows.

Ornamental Glass of all Descriptions.

Horticultural Glass at Lowest Rates.

DEATH TO THE WEEDS.

HOYTE'S WEED KILLER.

Strongly Recommended for the Destruction of Weeds, &c.

Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon; 10 gallons, 1s. 3d. per gallon; Original 40-gallon casks, 1s. per gallon.

HOYTE & SON, The City of Dublin Drug Hall,
17 LOWER SACKVILLE STREET, DUBLIN

Vegetable, Flower, and Farm Seeds

From the Finest Stocks and Strains in Cultivation.
Catalogue Post Free.

Browne, Thompson & Co.,
Seedsman, CORK.

Telegrams—"THOMPSON, SEEDSMAN, CORK."

PROTECT YOUR BUDS, or you will get no fruit. Netting, good strong, small mesh; will not rot. 30 sq. yards for 1s. Any length or width supplied. Orders over 5s. carriage paid.—H. J. GASSON, Net Works, RYE.

WATERPROOF CAPES.—Large size, suitable for Cyclists or men exposed to the wet, 3s. each. Large Police Oilskin Capes, lined with Serge, 5s. each. Extra Large Blue Cloth Police Capes, 5s. 6d. and 6s. 6d. Splendid Rubber Jackets, any size, 7s. 6d. each. Oilskin Overall Leggings, 2s. pair. Either above carriage paid.—H. J. GASSON, Government Contractor, RYE.

WATERPROOF COVERS, pliable as railway sheets, 12 ft. by 9 ft., 12s.; 15 ft. by 9 ft., 15s.; any size at 1s. per square yard, with lashes. Superior stout rot-proof green Canvas, any size, 1s. 6d. per square yard, with lashes. Cash returned if not approved of. No rubbish.—H. J. GASSON, Government Contractor, RYE.

MILITARY KNEE BOOTS, smart appearance, 7s. 6d. per pair; Naval Knee Boots, very strong, 6s. 6d. per pair; Bluchers, 5s. 6d. per pair, any size; carriage paid. Cash returned if not approved of.—H. J. GASSON, RYE.

J. NESS & CO., 12 Sandside, Scarborough, Garden and Lawn Tennis Boundary Net Makers; also Rabbit, Stack, Fishing, Cricket, and other Nets.

BEDDING PLANTS.

LISTS ARE NOW READY

In all the usual varieties, and of superb quality. Remember all plants offered are transplanted and carefully hardened off. No cheap seedbed rubbish offered.

DAHLIAS

My collection is the most complete in Ireland, and I acknowledge no superior in these popular flowers: price from 3s. 6d. per dozen. Descriptive list of these and

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Both Early and Late-flowering, on application to —

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CO. KILKENNY GOWRAN

(Seed Department, 68 High Street, KILKENNY)

Royal Horticultural Society of Ireland

GRAND SUMMER SHOW



Will be held, by kind permission of the Commissioners, in —

MERRION SQUARE, Tuesday, July 20th

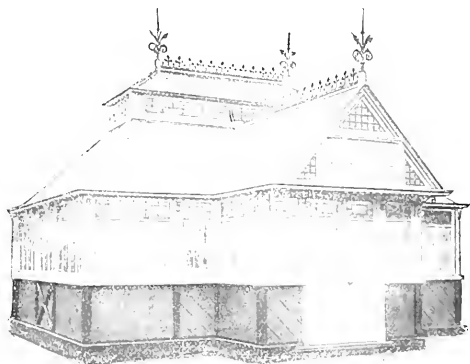
A MILITARY BAND WILL ATTEND



Admission, 1.30 till 4 o'clock, 2s. 6d.; 4 till 7 o'clock, 1s.

Tickets at reduced rates, if purchased previously to day of Show, can be had at the principal Seed Shops, and at the Society's Offices 5 MOLESWORTH ST., DUBLIN.

JAMES CRISPIN & SONS, F.R.H.S.



Supply all Classes of
 HORTICULTURAL
 BUILDINGS
 HEATING
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 DOMESTIC
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NITRATE OF SODA In 4 lb. Tins for Garden Purposes
 At 1s. each. By post, 1s. 6d.

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In BELFAST—

Messrs. ALEXANDER DICKSON & SONS. Royal Avenue

In BALLYMENA ————— Messrs. SMITH & CO.

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Seedsman and Manure Dealers can get these Tins in Cases of not less
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LAXTON'S New Strawberries for 1909

including the Grand New Varieties —
Laxton's Utility and Rival

Also LAXTON'S CROPPER
LAXTON'S PROGRESS
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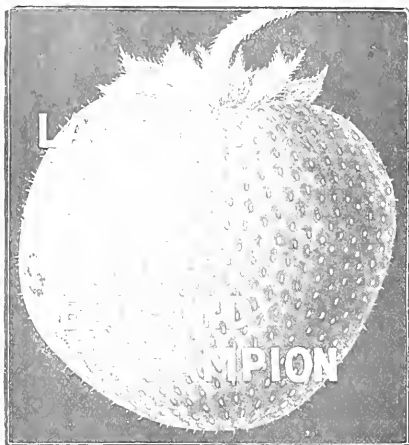
and the 3 Grand New Flavour Varieties
LAXTON'S EPICURE

PINEAPPLE
CONNOISSEUR

Early potted runners of Royal Sovereign for
forcing 15s. 100; open ground 5s. 100.

The Largest Cultures in Europe. Grown
specially for Runners, Grand Plants,
Millions Sold Annually

A full Catalogue and Price List will be sent on
application



LAXTON BROTHERS, BEDFORD

GARDEN NETTINGS

B. EDDY & SONS, Torleven Works, Porthleven,
Cornwall. The LARGEST Manufacturers of
Garden Netting in the Kingdom. Write
for prices of all kinds of Fishing, Garden,
Rabbit, and Tennis Court Netting . . .

New Square Mesh Netting

SMALL MESH, CORDED ALL ROUND

2 yds. wide,	@	0	4 1/2	per yd.	or	50 yds.	for	0	18	0
4	..	@	0	9	..	50	..	1	17	6
6	..	@	1	1 1/2	..	50	..	2	16	3
8	..	@	1	6	..	50	..	3	15	0

Any Length or Width supplied at Proportionate Prices

SPECIALLY CHEAP

3/4-inch Mesh Repaired Netting

DIAMOND MESH

50 yds. x 2 yds.	@	4	3	50 yds. x 4 yds.	@	8	6
50 .. x 6 ..	@	12	6	50 .. x 8 ..	@	16	6
50 .. x 10 ..	@	21	0	50 .. x 12 ..	@	25	0

These are Splendid Nets for protection against small
Birds. All goods sent on receipt of Order, Carriage
Paid to your nearest Station. Telegrams: "EDDY
TORLEVEN WORKS, PORTHLEVEN"

B. EDDY & SONS, Torleven Works, Cornwall
PORTHLEVEN,



Bee Hives

THOS. McKENZIE & SONS, Ltd.

DUBLIN

Fruit Baskets and Punnets

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Bottles for Preserving Fruit

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"Has stood the test of a quarter of a century."

THOMSON'S Vine, Plant, and Vegetable MANURE.

UNRIVALLED

FOR VINES,
TOMATOES,
CUCUMBERS,
FLOWERING,
FOLIAGE and
FRUIT BEARING
PLANTS,
VEGETABLES,
LAWNS, &c.



The result of
many years'
practical
experience.

PERFECT PLANT FOODS

Sold by
Seedsmen and
Nurserymen
everywhere.

This valuable Manure is yearly growing in public favour

Also

THOMSON'S SPECIAL CHRYSANTHEMUM MANURE.

Price Lists and Testimonials on application to Sole Makers

WM. THOMSON & SONS, LTD.,
Tweed Vineyard, Clovenfords, Galashiels, N.B.

NON-POISONOUS

WHITE'S
SUPERIOR
INSECTICIDE

ABOL, ABOLISHES APHIS

Green and Black Fly,
American Blight,
Caterpillars,
and all kinds of

For Garden and Greenhouse Use.

TRY IT and you will agree. "It acts like a charm." AN EXCELLENT
REMEDY FOR MILDEW.

½-Pt., 1 - Pt., 1 6. Qt., 2/6. ½-Gall., 4-. Gall., 7 6

"ABOL" SYRINGE Best Sprayer.

Does more and better work than
other syringes double the size.
TRY IT, and you will agree.

THE "ABOL" SYRINGE.



Prices: Syringes, 8 6 to 14 6. Postage, 4d. Bends, 1 6 extra.
Of all Seedsmen, Florists and Ironmongers, or on receipt
of remittance from the

SOLE MANUFACTURERS—E. A. WHITE, Ltd.,
Hop and Fruit Growers, Paddock Wood, KENT.

TAIT'S GARDEN SEEDS ARE THE BEST

CARRIAGE PAID

Selected Vegetable Seeds

Choicest Flower Seeds

Seed Potatoes Specially selected
and hand-picked

Every Requisite for the Garden

Call or write for Tait's Annual List, post free

W. TAIT & CO.

Seed Merchants

119 & 120 Capel St., DUBLIN

Once Used . The 'PATTISSON' HORSE BOOTS
Always Used



**Simplest! Strongest!
Most Economical!**

Soles of Best English Sole Leather
Waterproofed with Moar Tyre
Rubber Studs or Solid Rubber.
Fig. 1 can be refitted repeatedly,
equal to New Soles. Rubber Soles
strongly recommended

FIG. 1

Silver Medal—Royal Horticultural Society.

HUNDREDS OF TESTIMONIALS!

The Field says: "As good as anything that
could be devised."

Mr. TROP (Head Gardener to H.M.
THE KING, Balmoral Castle) writes:
"The boots supplied two years ago are as
good as ever."

Illustrated Price List from the Makers—



FIG. 2

H. PATTISSON & CO., 4 Greyhound Lane, STREATHAM, S.W.

BEHIND EVERY PAIR OF NORWELL'S PERTH BOOTS



is a firm with over 100 years
established reputation for
making reliable Scotch
boots.

Our Gardeners' Boots are
the right sort. You will
never feel foot weary. Why
not join our great, happy
tested army today?

Our special Gardeners Boots
10 6, 11 6, 12 6

NORWELLS,
PERTH, N.B.

Write for our style book, No. 135
mailed free any where.

"ACME" WEED KILLER

For Destroying Weeds, Moss, &c., on Carriage Drives, Garden Walks, Roads, &c.

POWDER WEED KILLER

Dissolves Quickly in Cold Water

Size of No. 1 ... Sufficient to make 25 gallons ... 19/- 1 tin
of No. 2 33/- 1 tin
This No. 3 6/- 1 tin

LIQUID WEED KILLERS

Strength 1 in 25 and 1 in 50. Prices on application

SOLUBLE PARAFFIN—mixes instantly with water and does not separate.

ARSENATE OF LEAD—for destroying all leaf-eating insects.

"FUMERITE" for destroying all ground vermin. To be dug into the soil.

EXTRACT OF QUASSIA

COMPOUND EXTRACT OF QUASSIA AND SOFT SOAP INSECTICIDE

QUASSIA CHIPS

SUMMER SHADING, &c.

LIVER OF SULPHUR

CAUSTIC SODA, 98 per cent.

SULPHATE OF COPPER, 98 per cent.

Other Garden Chemicals

BONES, 1/2 inch, 1/4 inch. BONE MEAL.

Prices and particulars on application

The Acme Chemical Co.

TONBRIDGE, KENT Ltd.

And River St., BOLTON, Lancs.

Dublin Agents

HAYES, CONYNCHAM & ROBINSON, Ltd., 12 Crafton St.

The PARAGON PEA TRAINER

(PATENT)

CONSISTS of light iron Frames of special construction, with lines of training wire stretched between, supported at intervals by Intermediate Standards. No trouble, always ready, and will last for years with only a few pence outlay for any necessary renewal of training wire. Made 4 ft. 5 ft. and 6 ft. high.

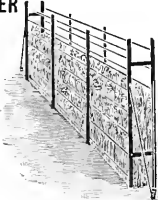
Extracts from some of latest testimonials:—
"The Pea Trainers, in my opinion, could not be improved: they are perfect in every way. The Peas can be removed from the plants without difficulty, and the wire can be taken down and removed without loss of time."
"I am thoroughly recommend your Pea Trainer, and I trust that this fresh Irish industry will, in the coming years, meet with the prosperity its invention merits."

—DEMOND.

"I am quite satisfied with your Pea Trainers, and use nothing but them."
—FERRET.

Try our new Trainers for Runner Beans and Asparagus.

Write for Price List



supplied through Seedsmen and Ironmongers, or direct from—

The Paragon Pea Trainer Co.,
Bridg St., Banbridge,
Co. Down.

PURE ICHTHEMIC GUANO.

The Most Reliable, The Richest Food, and the Most Natural Fertiliser.

Supplied in Tins and Bags, 6d. to 20/- Carriage paid in quantities of 25 lbs. and upwards.



FAME'S FERTILISER.

Swift, Safe, and Sure.

Supplied in Tins and Bags, 6d. to 20/- Carriage paid in quantities of 25 lbs. and upwards.

May be obtained from the principal Nurserymen, Seedsmen, Florists and Chemists of DIRECT DEPT.—

The Sole Proprietors and Manufacturers,

WM. COLCHESTER & Co.,

IPSWICH, England.

'EUREKA' WEED KILLER.

SAVES WEARY WEEDING.

50 gallons of mixed solution will kill all weeds on 200 square yards of paths, &c.



POWDER.
1 tin for 12 gallons, solution 1 Free Tin
19 " 25 " " " and
6 " 100 " " " 1 Cases.

LIQUID. 1-50.
1/2 gallon - 2/- 6 dms free
1 " - 3/6 " " extra
2 " - 5/6 " " 1/6 " "
5 " - 14/- " 2/6 " "
10 " - 25/6 - Cask 5/- "

'EUREKATINE': The successful fumigant.

'EUREKA' Insecticide, Lawn Sand, Hellbore Powder, Bordeaux Mixture, Worm Killer, Hayward's Summer Shade, &c.

SOLD BY AGENTS.

Full list with booklet, "Chemistry in Garden and Greenhouse," sent post free by makers—

TOMLINSON & HAYWARD, Ltd., LINCOLN.

APRONATUS PONICUS.

What's this! A New Plant?

No!

A NEW APRON!

Designed by a Gardener for Gardeners.

LOOK AT THE PRICE.



In Dark Blue "Ponicus" Twill,

1/9

Postage 3d. extra.

Or in Dark Blue "Ponicus" Serge of Everlasting Wear,

3/9

Postage 3d extra.

From Belfast—ALEX. DICKSON & SONS, Ltd., 55 Royal Avenue.
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ALEX. DICKSON & SONS, Ltd., 61 Dawson Street.
EDMONDSON BROTHERS, 10 Dame Street.

A Claim Proved!!

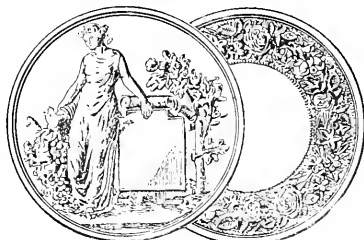
We have been claiming that—

The "FOUR OAKS" Knapsack

is the best knapsack in existence. This claim was substantiated on Thursday, April 22nd, at the Wisbech Spraying Demonstration, when, after exhaustive tests in competition with all other makes, English and Foreign,

The "FOUR OAKS" was awarded the

First



SILVER GILT MEDAL

Prize

FRUIT GROWERS PLEASE NOTE

Force is absolutely essential to effective spraying. It means penetration of the fluid into all the minute crevices where disease and pests breed. The "FOUR OAKS" Knapsack has **more force** behind the Spray than any other machine, British or Foreign

The "Four Oaks" Patent Knapsack Sprayer, No. 101 (British Made)

The Most Simple yet by far the best Knapsack Sprayer ever produced, and will last ten times as long as any other.

No rubber valves to perish or get out of order. All working parts outside.

The only Knapsack with force behind the spray.

We manufacture large Spraying Machines of every description. Send for Catalogue.

A Machine willingly sent on approval to any Gardener.

Manufactured only by the Inventors and Patentees—

The "Four Oaks" Undentable Syringe & Spraying Machine Co. SUTTON COLDFIELD BIRMINGHAM, ENGLAND

Send for Catalogue of Syringes, Spraying Machines, and other Horticultural Specialities.

All leading Irish Seedsmen and Nurserymen act as our Agents and supply our Specialities.

Dublin Agent—

D. M. WATSON, Horticultural Chemist, 61 South Great George's Street, DUBLIN



Suitable for Spraying Fruit Trees and Trees of all kinds, Hops, Vines, Coffee, Tea and Cocoa, also Potatoes and other crops.

PRICE **45/-**

Complete with "Four Oaks" Patent Spraying Nozzle, also Swing Nozzle and Short Brass Tube with Stop Cock and 3 feet **Best India-rubber Tube**. Will give very fine, medium, or coarse spray as desired. Double Swivel Nozzle, 4 - extra.

LONG TUBES FOR SPRAYING TALL TREES.

"Four Oaks" Patent Bamboo Lance, 10 ft. 6in., with interior Brass Tube, Stop-cock and Fittings - **17 6**
6 ft. 6in. Do - **12 6**
Strongly recommended.

SMITH'S 'PERFECT' WEED KILLER

(POWDER AND LIQUID)

LIQUID.—Prices:

1 gal.	2 0	8 gals.	0 12 6
2 gals.	3 9	10 ..	0 14 0
4 ..	5 6	12 ..	0 17 0
6 ..	7 0	16 ..	1 2 6
8 ..	8 0	18 ..	1 5 0
6 ..	9 6	20 ..	1 8 0
40 gallons.	£2 10 0		

One Gallon makes 25 Gallons for use. Packages extra, but allowed for on return. Carriage paid on 8 Gallons.

An Irish Testimonial.

Glendarragh,
Newtown-Mount-Kennedy,
Co. Wicklow.

I obtained several tins of Smith's Patent Weed Killer Powder, and used the preparation last year on walks and avenue here. Where the Powder was used all weeds were destroyed, and the walks kept perfectly free from weedy growths for the season.

B. St. G. DEANE,
Commander R.N. (retired), J.P. for
Co. Wicklow.

POWDER.

A Scientific Triumph!
Nothing like it ever seen before!
Immediately Soluble in cold water!

All Tins Free No Return Empty

1 Tin, sufficient to make 25 gals.	0 2 0
4 Tins	0 7 0
7 1/2	0 12 6
12	0 17 0
20	1 8 0
40	2 10 0

Carriage paid on 8 Tins.
* Box 6d extra 1 Box 1s. extra

Phone No. 1971.

Write for Booklet of Testimonials, &c.

ONE APPLICATION DOES FOR A WHOLE SEASON

Irish Agent—

D. M. WATSON, HORTICULTURAL CHEMIST
61 South Great George's Street, DUBLIN

For Destroying **CATERPILLARS**

On **APPLES, PEARS, GOOSEBERRIES, CURRANTS, ROSES,**
and all other Trees

SPRAY WITH **SWIFT'S ARSENATE OF LEAD**

IT will supersede all other similar Insecticides, and it has now a very large sale amongst the most up-to-date Fruit Growers in the great fruit-producing districts both in Ireland and England. No caterpillar can exist on foliage which has been sprayed with Swift's Arsenate of Lead. **Experiments made in Ireland** with Swift's Arsenate of Lead have **demonstrated its superiority** over Paris Green, London Purple, &c. Full directions for use sent with all orders. See Department's Leaflet No. 85.

It kills ALL leaf-eating Caterpillars without exception.

Suitable for all trees.

It sticks on the leaves.

Rain will not wash it off.

No danger of burning or scorching the leaves as Paris green does.

Tends to produce better and larger fruit.

Used by many Irish and English Fruit Growers in last two or three years

PRICES—

1lb. Tins	...	at 1s. per lb.	20lb. Wooden Pails	...	at 10d. per lb.
5lb. Wooden Pails	...	.. 1s. ..	50lb. .. Kegs	...	.. 9 1/2 d. ..
10lb. .. ..	...	.. 10 1/2 d. ..	100lb. .. ..	...	.. 9d. ..

All kegs and tins Free. Carriage paid on 50 lbs. and upwards.

MANUFACTURED BY MERRIMAC CHEMICAL COY., BOSTON, U.S.A.

Sole Irish Agent—

D. M. WATSON, Chemist, 61 Sth. Gt. George's Street, Dublin

Phone, 1971.

Write for Booklet of Testimonials, &c.

Bedding Plants.

THE weather having proved so exceptionally dry during the first three weeks of June, it was a difficult matter in many districts to make satisfactory progress with the bedding-out. Rain has come in abundance during these last days of the month, and no better planting time could be found. The various nurseries have had a busy time getting out their orders, and at Messrs. Watson's, Clontarf, a heavy rush for bedding plants has prevailed all the month, and wonderful quantities have been despatched all over the provinces. However, the firm took last season's lesson to heart, and propagated greatly increased quantities of all summer plants, with the result that they can still fill orders with satisfaction to those who have been obliged to defer planting till now, and as Messrs. Watson's plants are thoroughly well done excellent results may quickly be obtained from present planting. A feature of the season has been the receipt of unusually numerous letters from satisfied purchasers, enclosing repeat orders and also expressing gratification with last season's supplies from the Clontarf Nurseries. Especially worthy of note by those who live in the country is the fact that nearly every client remarked on the "beautiful packing," thereby justifying Messrs. Watson's catalogue remarks on their ideas as to the despatch of plants.

A copy of the firm's booklet on Summer Bedding Plants may be obtained free by post, on application to Clontarf.

The Herbaceous Border.

By FRANK HUDSON.

JULY is the best month for propagating perennial plants from cuttings. Select nice young growths in taking the cuttings. Violas, penstemons, carnations, pinks, and Alpine plants, strike roots very quickly at this time of the year if they are inserted in a cold frame. Select a northern aspect for the frame. Put in about 3 or 4 inches of sandy soil. Insert the cuttings firmly; water them thoroughly. Put on the light, and keep it close and shaded for about three weeks. The cuttings will be, by that time, starting to grow. Give air gradually, and after some time take off the light altogether.

Attend to the staking of plants, such as dahlias and other tall-growing plants, in the border. Use judgment in staking them, and do the work as neatly as possible. Never use a large stake when a small one will support the plant.

Royal Horticultural Society of Ireland.

The monthly meeting of the Council was held at the Society's Offices, 5 Molesworth Street, Dublin, on the 11th ult., members present being Messrs. F. Moore, M.R.L.A., Rev. Canon Hayes, J. McDonough, W. F. Gunn, W. J. Mitchison, J. Wylie-Henderson, R. Anderson, G. Watson, Ernest Bewley, T.C., Jas.

GREEN'S MOWERS and ROLLERS

STAND PRE-EMINENT!

Known and appreciated throughout the World

Thomas Green & Son, Ltd.

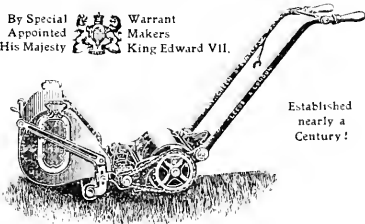
Smithfield Iron Works, Leeds, and New Surrey Works, Southwark St., London, S.E.

Sold by all Ironmongers . . . Please write for Price List No. 21.

Highest Awards, Royal Botanic Society, 1905-6;
Royal Horticultural Society, 1905, 1907, and 1908

MOTOR MOWERS Upwards of 200 have been supplied

By Special Warrant
Appointed Makers
To His Majesty King Edward VII.



Established nearly a Century!

THE DENNIS HEATING APPARATUS COMPLETE

76

THOS. W. ROBINSON & SONS, LTD.,
Boiler and Pipe Manufacturers,
STOURBRIDGE.

This "Apparatus" has obtained repute both in Large and Small Gardens.

Write for Discounts and Price Lists.
Manufacturers of PLAIN AND ORNAMENTAL SPOUTING, HOT WATER PIPES, BOILERS, PUMPS, LAMP POSTS, VENTILATING GEAR.

THOS. W. ROBINSON, LTD.,

Boiler and Pipe Manufacturers,

STOURBRIDGE.

£600 PER ACRE is the gross return from an English plot of land worked under the French method of intensive culture, by the use of Cloches or Bell-glasses

FOR THE PROPAGATION OF EARLY VEGETABLES, &c.

Pilkington's Glass Cloches

SHOULD BE USED

Of superior quality and made either with or without knobs in sizes up to 20-in. diameter . . .



Carriage paid on lots of 50 or over to Lublin or Belfast . . .

Of all Dealers in Garden and Farm Requisites, or direct from . . .

Pilkington Bros., Ltd., Glass Works: ST. HELENS, Lancs.

THE LEADING HORTICULTURAL MANURE
Cross's Garden Fertiliser

Occupies the first place with Horticulturists
One cwt. will go as far as $1\frac{1}{2}$ cwts. of most
Garden manures

Other essentials for the Garden and Greenhouse—

- CROSS'S CLUBICIDE**
CROSS'S NICOTINE VAPORISER
CROSS'S ORGANIC TOMATO GUANO

To be had from your Seedsman

Manufactured by

Alex. Cross & Sons, Ltd.
19 Hope Street, GLASGOW

SHANKS' LAWN MOWERS.

STANDARD MACHINES FOR HAND, PONY, OR HORSE POWER.
Fitted with Steel Axle Springs

SIZES—
10 inches
to
48 inches.

Also
SMALL
MOWERS,
6, 7, and 8
inches.

“**THE CALEDONIA**” Light ROLLER MACHINE
with Patent Axle Springs.

SIDE-WHEEL MOWERS.
“The Talisman”
“The Britannia”
and
“The Britisher”

Light and Cheap.
WITH or WITHOUT
CRASS BOXES.

ROLLERS FOR HAND, PONY, OR HORSE.
Also Petrol Motor Mowers, the most powerful on the market.
Of All Ironmongers and Seedsmen.




IMPORTANT TO—
**Gardeners and
Fruit Growers**



“NIQUAS”

(Registered).

The most successful Non-poisonous Insecticide
of the day.

ITS ADVANTAGES ARE—

Certain death to all Insect Pests.
No possible injury to the most delicate Plant, Flower or Foliage.
It is by far the cheapest Insecticide known. One pint makes ten
to twelve gallons for Thrip, Black and Green Fly, &c., whilst RED
SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by
using “NIQUAS,” about double the strength required for Fly.

*It is most successfully used by Orange and
other Fruit Growers in the Colonies, &c.*
PRICES—Pint, 1s.; Quart, 1s.; Half-Gallon, 3s.; Gallon, 5s.;
Kegs, each Five Gallons, 22s. 6d.; Ten Gallons, 42s. 6d.

LETHORION

Registered Trade Mark

IMPROVED METAL



No. 62907.

**VAPOUR CONE
FUMIGATOR . .**

At Greatly Reduced Prices.

INTRODUCED 1885.

This well-known invention for the entire eradication of all pests
infesting vegetation under glass is now manufactured in a more
simple and reliable form. The small candle, which will be found
packed with each cone, has only to be lighted, and placed on the
ground in the centre of the Cone Frame, to produce immediate
results. Nothing on the market can equal it for efficacy and
cheapness.

Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet,
price 1s. each. Cone No. 2, for a well-secured house of cubic 1,000
to 1,200 feet, price, 8d., each. Cone No. 1, Carbon, for frames
cubic 100 feet, price 6d. each. *Full directions accompany each Cone*

Ask for a list of Testimonials, of which some hundreds have been
received from the leading gardeners in the Kingdom.

Registered No. 14629.

FOR



Trade Mark

**All Glass Structures
THAT REQUIRE
OUTSIDE SHADING**

The only Genuine, Original, and
Improved Article. It has been in
general use for **over 30 years**

Be sure to ask for
**SUMMER CLOUD
SHADING**

And see that you get it!

Sold by all Dealers in Horticultural
Sundries throughout the Kingdom,
in Packets containing 8 ozs., for 100 feet of glass, 1s. 2d. 4 ozs., 2s. 6d.;
and in Bags of 7 lbs., 10s. 6d.; 14 lbs., 20s. —

MANUFACTURED BY

CORRY & CO., Ltd.
13 and 15 Finsbury St., LONDON, E.C.

Robertson, J.P., with Mr. G. M. Ross, M.A., presiding. Judges were appointed for the Summer Show, and other details arranged for, including the engagement of a military band. A letter was read from the Department of Agriculture, presenting the prizes for the apple classes, 16 to 32, inclusive, at the Winter Fruit Show, and it was directed that the best thanks of the Council be sent to the Department for this esteemed aid. It was also directed that the Fruit Show should be brought under the notice of the Irish Industries Development Association, in order that publicity and possibly more public patronage should be obtained for what is calculated to promote and encourage the Irish fruit growing industry. Some nice vases of hardy flowers were arranged on the table for inspection, including a bunch of pretty *Hybrid aquilegias* from Mr. Watson, for which the thanks of the Council were accorded. Messrs. Heath & Sons, Cheltenham, were elected to membership, the Stillorgan and Foxrock Horticultural Society and the North Kildare Horticultural Society being affiliated.

Competitors in the carnation classes at the coming show will please note that class 24 is for twelve vases, which, by error, is not notified in the schedule.

Shows.

THE ROYAL HORTICULTURAL SOCIETY OF IRELAND.—The Grand Summer Show of this Society will be held in Merrion Square, Dublin, on the 20th of the present month. There are 77 classes, including plants in pots, cut blooms, sweet peas, hot-house and hardy fruit, and vegetables. There are offered for competition Challenge Cups for roses, dahlias, carnations or picotees, and sweet peas; Medals for roses, and valuable prizes in all the classes.

THE recently formed "Kingstown Horticultural Society" has arranged to hold an exhibition of flowers, fruit, and vegetables, on Wednesday, the 11th of August next. It will be held in the People's Park, Kingstown. There is a schedule of 58 classes, including a Cup for the best 12 bunches of sweet peas in distinct varieties. We notice with great pleasure that there is a special class for the pupils of the school garden in connection with the Technical School. The society has our best wishes in its spirited efforts to advance all-round gardening in the Kingstown township.

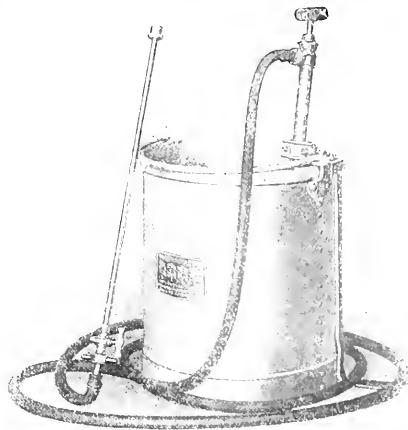
THE Royal Ulster Agricultural Society's Horticultural Show will be held at Balmoral, Belfast, on July 22nd and 23rd inst. There are 32 classes with good prizes attached, including two special prizes of plate for dinner table decorations.

THE EAST WICKLOW HORTICULTURAL SOCIETY holds its annual show at Greystones on the 28th of the present month. Among the prizes offered for competition are two £5 5s. Challenge Cups—one for roses, and one for sweet peas (open to all Ireland). Schedules and further particulars can be obtained from the Hon. Secretaries, Greystones.

Spraying.

SPRAYING is now recognised as a necessity in all up-to-date gardens, and the gardener who neglects it is

likely to be harassed with many troubles through attacks of fungal and insect pests. But the work of spraying must be well done. There is no use in half-measures, and more harm than good may follow careless methods. Neither a whin bush nor a white-wash brush is an effective instrument for distributing the deadly fluid, and a bad sprayer is only better than those and still far short of the requirements of the case. Fineness of spray is an absolute essential. A good sprayer is a necessary garden appliance, and now-a-days there are so many different patterns of really good machines with such a wide range in price that even a cottager may find it within the limits of his purse to acquire one. We have illustrated in these pages from month to month a series of types manufactured by the "Four Oaks" Company, and now give another, a very handy little



machine called the "Dairyman," the advertised price of which is £2 10s. Such machines are very useful during the summer months in distributing soluble disinfectants. It should always be remembered that a disinfectant can only act when it comes into actual contact with the troublesome germs. It is useless labour to put disinfectants about in saucers, or to splash it about by random flings. Spraying is the best method of distribution. It makes the solution go much further and does its work immeasurably better. A good spraying apparatus is a necessity in every home.

Knapsack Sprayers.

THERE have been frequent press references recently to the efficiency of the "Four Oaks" Knapsack and other Sprayers, and it is therefore interesting to learn that at the recent Wisbech Trial of Spraying Machines the "Four Oaks" Knapsack Sprayer was given the Premier Award in competition with all other

NICOTICIDE

(FUMIGANT).

	per cubic ft.	each
Half Gallon Tin contains sufficient for 100,000	60	0
No. 1 size Tin—1 pint	400,000	15
No. 2 size Tin—1 pint	200,000	7
No. 3 size Bot.—6 oz.	120,000	4
No. 4 size Bot.—4 oz.	80,000	3
No. 4½ size Bot.—1 ½ oz., new size ..	40,000	1
No. 5 size Bot.—1 ½ oz. "sample" ..	20,000	0

Carriage Paid.

FUMIGATORS.

1s. each, for 5,000 cubic feet.

NICOTICIDE PLANT SPRAY.

1 pint, 1s. 2d. Pint, 2s.

Quart, 3s. 6d. ½ gal., 5s.

Gallon, 10s. Carriage paid.

GOW'S LAWN SAND

DAISY ERADICATOR.

28 lbs., to dress 100 square yards, 7s. 6d.;

1 cwt. keg, 21s. Carriage paid.

GOW'S SLUG AND WIREWORM DESTROYER.

Being a Combined Fertilizer.

TOBACCO POWDER AND QUASSIA EXTRACT.

Sold in 6d., 1s., and 2s. 6d. tins, also in larger sizes.

Carriage forward

GOW'S

LIQUID WEED KILLER

GOW'S

POWDER WEED KILLER

1 gal., to make 51 gals. in soil, 3/6.

25s. 2. in soil, 1/6.

5 "Buns" free. Carriage paid.

No. 1 Tin, 2/-, to make 25 gals.

No. 2 Tin, 6/6, " 100 "

Tins free. Carriage paid.

HUNTER & GOW, 46 Thomas St., Liverpool.



V₂ FLUID

For Summer Spraying

Kills Greenfly, Psylla, Scale Insects, and Young Caterpillars.

1 Gallon makes 100 Gallons of Spray Mixture.

APTERITE

The Soil Fumigant

Destroys underground pests, including WIRE-WORMS and Grubs of all kinds, Slugs, Ants, Millipedes, &c.

WEEDICIDE

A Concentrated Weed-Killer

Destroys Grass and Weeds on Garden Paths.

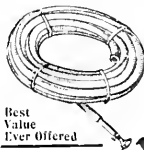
Full particulars & prices from the Sole Mfrs.,

Wm. Cooper & Nephews, Berkhamsted.

GARDEN HOSE

AT TRADE PRICE

60 ft. length, finest quality, complete with fittings and patent tap union, ready for use



Best Value Ever Offered

1½-in. 2-ply. 15/- CASH WITH ORDER

The Midland Rubber Co., Ltd.

RYLAND STREET, BIRMINGHAM

IRISH INDUSTRY

Flower Pots, Seed Pans

AND ALL KINDS OF

HORTICULTURAL POTTERY OF SUPERIOR QUALITY

Exceptionally Good Terms

Write **G. J. OWENS**, Carley's Bridge ENNISCORTHY

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TEAS.

PRICES—
2/5, 2/2, 2/-, 1/10, 1/8, 1/6, 1/4, 1/2.

8 Sth. Gt. George's St.

AND 17 Nth. Earl St.

Dublin.

makes, English and Foreign. The power of the machine and the structure of the nozzle resulted in the production of a spray, the force and firmness of which elicited admiration from the critical onlookers. The machine has no rubber valves, the valves being of brass and ball formation. Another great advantage is that all the working parts are outside and can be got at in a moment. Prices and all other particulars of these machines can be had from the Dublin Agent, Mr. D. M. Watson, Agricultural Chemist, 61 South Great George's Street, Dublin, who makes a speciality of spraying machines and materials of all kinds. All who intend purchasing a spraying machine for this season's use should see the "Four Oaks" before buying any other make.



THE CATERPILLAR OF GOOSEBERRY SAW-FLY FEEDING ON THE LEAVES OF CURRANTS

From article by Prof. Carpenter, *Irish Gardening*, 1907. Answer to a Correspondent.

Spraying for Aphis.

APHIS appear to be unusually troublesome this year. During the long spell of dry weather preceeding the recent rains, roses, currant bushes and a large number of other plants, including even the common barberry, have been infested with this disgusting pest. A writer under the initials "H. P." in the *Journal of Horticulture* announces that he has discovered a "wonderfully cheap and effective insecticide" in a solution of common washing soda. The solution is said to kill every aphid that is touched with the spray. Not only so, but it washes the leaves clean of honey-dew and leaves them fresh and healthy. The solution is made by dissolving 1 lb. of the washing soda in 20 gallons of water. It is worth trying. See IRISH GARDENING, Vol. II., No. 7, July, 1907.

Notes.

MESSES. JOSEPH BENTLEY, Limited, of Barrow-on-Humber, Hull, have been granted the Royal Warrant of Appointment as Horticultural Chemical Manufacturers to the King.

At the Royal Agricultural Show (England) held last month, Messrs. Heath, of Cheltenham, well known here as exhibitors of Alpine plants, were awarded the Gold Medal for a striking out-door exhibit of a pleasingly constructed Alpine garden, which attracted the universal admiration of visitors.

BEST MANURE FOR POTATOES.—In a recent number of IRISH GARDENING we advocated the use of artificial manures, in combination with farmyard manure, and it is interesting to find that further support is given to what is already held as an article of cultural faith by up-to-date growers in a series of experiments conducted by the University College of North Wales in the manuring of potatoes. In comparing the results obtained by the use of farmyard manure alone, artificials alone, and a mixture of farmyard manure and artificials, the latter gave the best results. The actual quantities used were 20 tons farmyard manure, 100 lbs. sulphate of ammonia, and 82 lbs. of sulphate of potash, per acre.

Answers to Correspondents.

GOOSEBERRY CATERPILLAR ("H. M.T.").—The simplest plan is to spray with arsenate of lead, but this should not be done within three weeks of gathering the fruit. The safest plan is to hand pick, which, if undertaken early, is not such a big job. See article by Prof. Carpenter in IRISH GARDENING, Vol. III., No. 20.

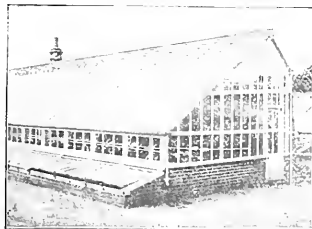
BOX CUTTINGS ("Querist").—Make cuttings this month or next from 4 to 6 inches long and insert in a light sandy soil. Place under a light or bell jars and keep in a shady place. Roots ought to develop easily. Or layers may be made. When planting out, plant firmly.

THUJA HEDGES ("M. Q.").—There ought not to be any difficulty in getting *Thuja gigantea* to thrive on the site mentioned. The reason of the failure is, probably, that the plants were too old—a very common source of disappointment. Plants two years younger, 16 to 20 inches high, would be far more sure of taking. If the site is very exposed and devoid of natural shelter something temporary might be rigged to tide over the first year or two. Be sure the right tree is got. Be sure the roots do not get dried up or frosted in transplanting. Be sure the hole is dug plenty wide and deep enough to allow of the roots being evenly spread with nice,

WM. DUNCAN TUCKER & SONS, Ltd. "Anti-Drip, London"

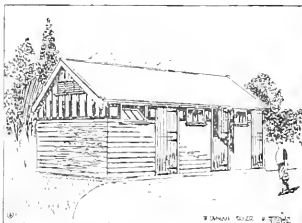
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"Anti-Drip, London"



Conservatories. Ranges
Vineries, Ferneries, Stoves,
Pits, Plant-houses & Green-
houses of all descriptions.
Portable Buildings for every
purpose

Write for Catalogue.
Kindly mention this paper



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Works: Tottenham

For Present Season
CABBAGES Mein's Pioneer.

the earliest and best type of small Cabbage.
Transplant in Sept., 7 in apart and 1 in.
between the rows. Per pkt, 1s. 6d. and
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Competition in "Gardeners"
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Selected Stocks

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Excelsior, 6d., 1s., and 1s. 6d. pkt
Monarch, 1s. 6d., and 2s. 6d. pkt
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Full list see "Seed Guide," post free.

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Weeds Killed: Grass Invigorated by

"CLIMAX" LAWN SAND

When applied during dry weather daisies and other weeds are destroyed and a fine growth of grass quickly covers the places occupied by disgusting weeds. Thousands of weedy and poor Lawns have been transformed by Climax Lawn Sand. Why not yours? Try it now. 7lbs. 2s., 14lbs. 3s. 6d., 28lbs. 6s., 56lbs. 11s., 112lbs. 20s. Carriage paid. Sample Tin 1s. 3d., post free



PROTECT YOUR PLANTS

From Slugs, Crubs, Caterpillars, Ants, Wireworm, and the Domestic Cat

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On Garden Paths, Carriage Drives, &c.

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Down every growth for 12 months. No hoeing or weedy weeding.

PATHS ALWAYS BRIGHT AND CLEAN.

No. 1 Tin to dress 100 square yards, 2s.

2 Tins 3s. 6d. Post free.

No. 2 Tin to dress 200 square yds. 6s. 6d.

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BOUNDARY CHEMICAL CO., Ltd.

Cranmer St., LIVERPOOL

soft earth round and through them. Be sure the tree is not planted too deep, and is well "firmed" in at the depth it has been growing at.

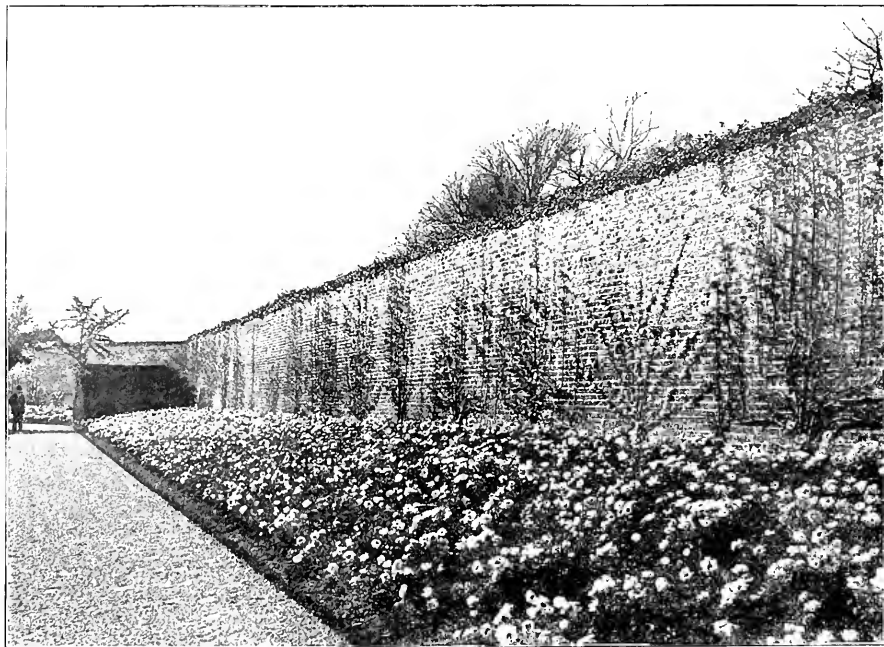
YUCCA ("J.L.").—You give no particulars, only saying that they are not thriving. Were they planted out of doors? They usually thrive in any well-drained garden soil, although they object to lime. In a rich, loamy soil they ought to do well. Young plants often lose part of their root system by rough handling in transplanting, but in any case they often take months to re-establish themselves in their new quarters. In planting, care should be taken to firm them well, and to see that the stems are prevented from being rocked by the wind.

HOT-BED IN COOL GREENHOUSE FOR RAISING CUTTINGS ("A new Reader").—A bed may be made of fresh stable manure, about 3 feet deep, and well firmed down and supported in front with boards. Over this may be put a layer, 6 or 8 inches deep, of ashes or bog mould, in which the pots or seed-pans may be plunged. The temperature of the bed will be regulated by the quality of the manure, its degree of

firmness and moisture content. (2) In using artificial manures for pot plants great care must be taken not to over-feed. The manures you mention had better be given in very weak solutions—put a handful of either in a bag, and suspend it in water until all the soluble parts dissolve out, and then make up to ten gallons. Water with this twice a week after first watering in the ordinary way. We would not advise you to feed the cactus plants as you suggest. For the ferns use half strength. (3) Yes, with pleasure.

TROUBLE IN SIFT-BEDS ("J.P.").—We cannot decide whether the most important word in your letter is "birds" or "beasts." We might suggest that you catch them, but that, perhaps, is too obvious. We therefore venture to advise the use of soot on the surface of the beds if "beasts," or netting, if the trouble is due to "birds."

HYACINTH BULBS AFTER FLOWERING ("Daisy").—Plant them out in a border until the foliage dies down, then lift the bulbs and keep them in a cool, dry place until autumn, when they may be planted.



A BORDER IN SPRING (Mackey's St. Brigid Anemones).

• Gorgeous flowerets in the sunshine shining,
Blossoms flaunting in the eye of day;
Tremulous leaves with soft and silver lining,
Buds that open only to decay.

Everywhere about us are they glowing,
Some like stars to tell us spring is born;
Others, their blue eyes with tears o'erflowing,
Stand like Ruth amid the golden corn."

Miscellaneous Section

TO-DAY !

AND FOR

YEARS AND YEARS PAST

The "XL-ALL" Specialities are and have been the best on the Market. Where is the gardener who does not pin his faith to one or the other of these celebrated insecticides or fertilisers?

"XL-ALL" FERTILISER has pleased all who have used it. The sales of "XL-ALL" FUMIGATOR prove that it is more popular than ever.

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"XL-ALL" WEED KILLER, used once a year, no weeds can live. RICHARDS' ARSENATE OF LEAD for all leaf-eating insects. CUCASA (fungicide), the finest preparation of copper ever offered to gardeners.

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LANDSCAPE GARDENING

DESIGNING, Laying out and Planting of New and Renovating of Old Gardens. The Making and Planting of Rock Gardens, Rockeries, and Pergolas a Speciality. Plans Prepared. Estimates Free.

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BANBRIDGE

Horticultural and Agricultural Association

THE Annual Show of the above Society will be held on Tuesday, August 24. Opening Ceremony, 12 noon. For Schedules and Entry Forms apply to the Secretaries—

R. ALLINGHAM, Glencar, Banbridge } Secretaries
J. GORDON, Solicitor, Banbridge }

TRIM

Agricultural and Horticultural Society

THE Committee of the above Society have fixed date for holding Show for Tuesday, 17th August, 1909.

PATRICK HEALY, Secretary.

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M. R. LEWIS MEREDITH, F.S.I.; F.R.H.S., undertakes all branches of Landscape Gardening—Renovating Old, Designing and Planting of New. Artificial Water, Rock and Wall Gardens a speciality. Estimates Free.

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Courses in Agriculture, Horticulture, Forestry, and Creamery Management at—

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The Albert Agricultural College, Glasnevin, Dublin
The Agricultural Stations—Ballyhaise, Co. Cavan
Clonakilty, Co. Cork
The Forestry Station, Avondale, Co. Wicklow

For Prospectuses of the 1909-10 Sessions, containing particulars as to Fees, Scholarships, &c., application should be made at once to—

THE SECRETARY,

Department of Agriculture and Technical Instruction for Ireland, DUBLIN

DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND

TRAINING IN FORESTRY

An Examination for Paid Apprenticeships in Forestry will be held in Dublin on 7th September, 1909. Applications for Prospectuses and Entry Forms should be made at once to—

THE SECRETARY,

Department of Agriculture and Technical Instruction for Ireland, DUBLIN

DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND

TRAINING IN FRUIT GROWING AND GENERAL GARDENING

Applications for Paid Apprenticeships in connection with the 1909-10 Session of the Horticultural School at the Albert College, Glasnevin, Dublin, should now be made. For particulars as to terms of admission, wages, &c., apply to—

THE SECRETARY,

Department of Agriculture and Technical Instruction for Ireland, DUBLIN

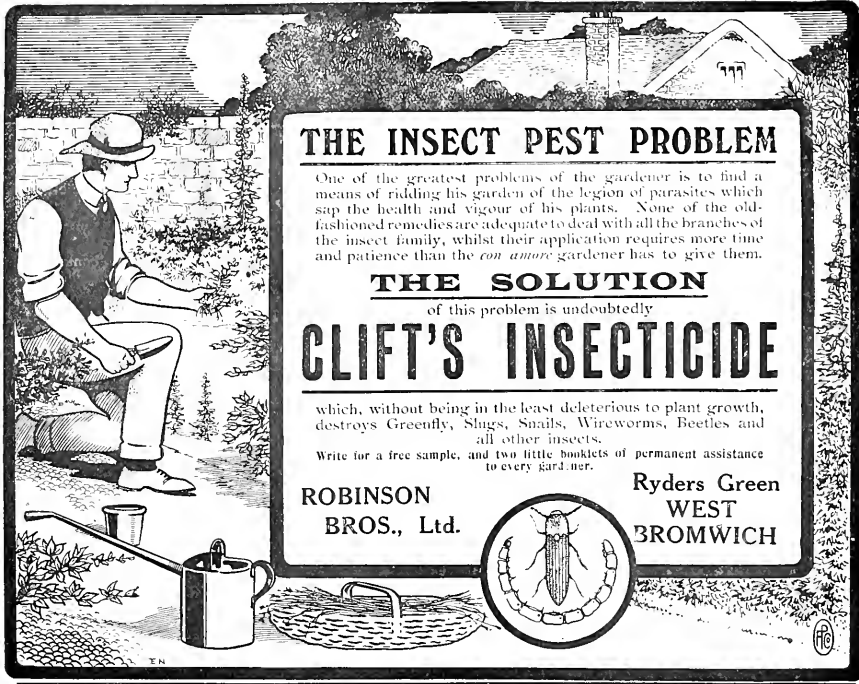
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Is CERTAIN DEATH to all Pests infesting plants under glass, &c. Simple to use, no apparatus required. In Boxes to fumigate 1,000 cubic feet, 6d.; 10,000 cubic feet, 3s. 6d. each. Obtained of Seedsmen and Florists; if unobtainable apply direct—

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Wholesale Horticultural Sundriesmen,
HACKNEY, LONDON, N.E.
Trade Terms and Catalogue of Sundries upon receipt of Business Card.





THE INSECT PEST PROBLEM

One of the greatest problems of the gardener is to find a means of ridding his garden of the legion of parasites which sap the health and vigour of his plants. None of the old-fashioned remedies are adequate to deal with all the branches of the insect family, whilst their application requires more time and patience than the *con amore* gardener has to give them.

THE SOLUTION

of this problem is undoubtedly

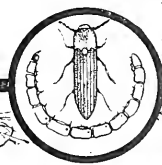
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which, without being in the least deleterious to plant growth, destroys Greenfly, Slugs, Snails, Wireworms, Beetles and all other insects.

Write for a free sample, and two little booklets of permanent assistance to every gardener.

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CABBAGES—Mein's Pioneer,
the earliest and best type of small Cabbage. Transplant in Sept., 9 in. apart and 12 in. between the rows. Per pkt., 1s. 6d. and 2s. 6d. Mein's No. 4, the best type of early large Cabbage. See Competition in "Guide." 1s. per oz., post free.

Special Prices for larger quantities

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Mein's Extra Selected Stocks
Alisa Craig, 6d., 1s., and 2s. 6d. pkt.
Granstons' Excelsior, 6d., 1s., and 1s. 6d. pkt.
Monarch, 1s. 6d. and 2s. 6d. pkt.
Trebons, 1s. oz.

Full list see "Seed Guide," post free.

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60 ft. length, finest quality, complete with fittings and patent tap union, ready for use

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FRUIT TREES

OF ACKNOWLEDGED FINEST POSSIBLE QUALITY.

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SPECIAL OFFER of 6,000 4 and 5 year $\frac{1}{2}$ -Standards, extra strong, big heads, fruiting trees. Apples, Pears and Plums in best sorts. Lists on application. 18, 20/- dozen. Worth double.

TRAINED APPLES, PEARS, PLUMS and CHERRIES.

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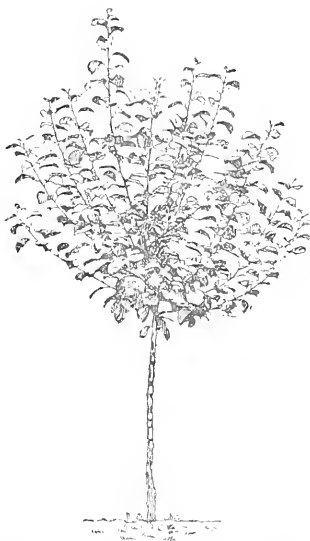
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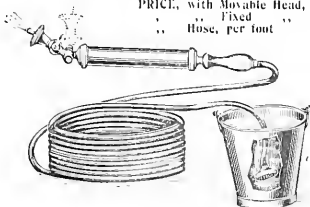
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PRICE, with Movable Head, 14/6
" " Fixed " " 12/6
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THE advantages of this Syringe are that there is no need to dip into water to refill, the refilling takes place when the Piston is drawn out; there are no parts to disconnect when changing from rose shower to jet; this is done by simply pushing the tap lever over as required.

Any length of hose can be used to obtain a water supply; the most suitable for the purpose is $\frac{1}{2}$ -inch garden hose, which is very light and durable. Provided with this Patent Syringe is a joint so arranged that water can be directed at any desired angle, for the purpose of getting under foliage, &c.

Where water is being used from a tank or pit, it is necessary to use a strainer (which we supply at a very small cost) to prevent mud or vegetable matter being sucked through the hose, which would be likely to cause a stoppage in the rose.

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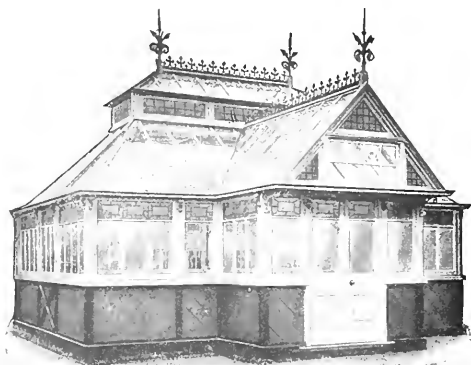
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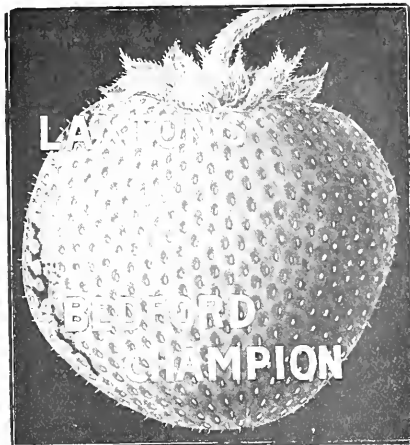
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LAXTON'S EPICURE

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Green and Black Fly,
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TRY IT and you will agree. "It acts like a charm." AN EXCELLENT
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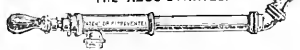
½ Pt., 1 - Pt., 1 ½. Qt., 2/6. ½-Gall., 4 - Gall., 7 6.

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Best Sprayer.

Does more and better work than other syringes double the size. TRY IT, and you will agree.

THE "ABOL" SYRINGE.



Price: Syringes, 8 6 to 14 6. Postage, 4d. Bends, 1 6 extra. Of all Seedsmen, Florists and Ironmongers, or on receipt of remittance from the

SOLE MANUFACTURERS—E. A. WHITE, Ltd.,
Hop and Fruit Growers, Paddock Wood, KENT.

TAIT'S

Tested Garden Seeds

FOR AUTUMN SOWING—POST FREE

CABBAGE SEED

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Tait's Improved Nonpareil	..	3d.	..	6d.
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Early Dwarf York	..	3d.	..	6d.
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Enfield Market	..	3d.	..	6d.
Large York	..	3d.	..	4d.
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ONION SEED

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Tripoli, Giant Rocca	..	3d.	..	6d.
.. Large Flat Red	..	3d.	..	6d.
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Soles of Best English Sole Leather Waterproofed with Motor Tyre Rubber Studs or Solid Rubber. Fig. 1 can be refitted repeatedly, equal to New Boots. Rubber Soles strongly recommended.

FIG. 1

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The Field says: "As good as anything that could be devised."

Mr. TROUP (Head Gardener to H.M.

THE KING, Balmoral Castle) writes:

"The boots, supplied two years ago are as good as ever."

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FIG. 2

BEHIND EVERY PAIR OF NORWELL'S PERTH BOOTS



is a firm with over 100 years established reputation for making reliable Scotch boots.

Our Gardeners' Boots are the right sort. You will never feel foot weary. Why not join our great, happy footed army to-day?

Our special Gardener Boots
10/6, 11/6, 12/6

NORWELLS,
PERTH, N.B.

Write for our style book, No. 105
mailed free anywhere.

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FRUIT TREES, ROSE TREES, AND CARNATIONS
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"Your Fruit Trees have been eminently satisfactory—not one died. I hope to get more from you this Autumn."

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BORDERS, MALMAISONS
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WINDOW GLASS.

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Ornamental Glass of all Descriptions.
Horticultural Glass at Lowest Rates.

DEATH TO THE WEEDS. HOYTE'S WEED KILLER.

Strongly Recommended for the Destruction of Weeds, &c.

Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon; 10 gallons, 1s. 3d. per gallon; Original 40-gallon casks, 1s. per gallon.

HOYTE & SON, The City of Dublin Drug Hall,
17 LOWER SACKVILLE STREET, DUBLIN

The PARAGON PEA TRAINER (PATENT).

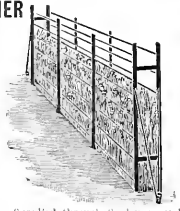
CONSISTS of light Iron Frames of special construction, with lines of training wire stretched between, supported at intervals by intermediate Stanchions. No trouble, always ready, and will last for years with only a few pence outlay for any necessary renewal of training wire. Made 4 ft., 5 ft. and 6 ft. high.

Extracts from some of latest testimonials:—
"The Pea Trainers, in my opinion, could not be improved; they are perfect in every way. The Peas can be removed from the plants without difficulty, and the whole can be taken down and removed without loss of time."
"I can thoroughly recommend your Pea Trainer, and I trust that this Irish Pea industry will, in the coming year, meet with the prosperity its invention merits."

—DUNSMOUL,
"I am quite satisfied with your Paragon Trainers, and use nothing but them."
—JERSEY.

Try our new Trainers for Runner Beans and Raspberries.

Write for Price List.



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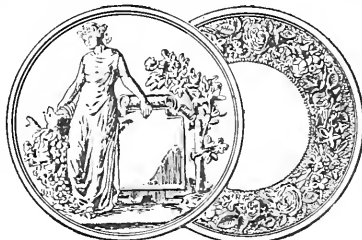
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SHOWS.

Royal Horticultural Society of Ireland.

Summer Show.

I. GENERAL.

THE summer show of the Royal Horticultural Society was held in Merrion Square on July 27th in splendid weather. There was a large number of visitors, and throughout the afternoon the grounds presented a very animated appearance. Her Excellency the Countess of Aberdeen paid a visit to the show during the afternoon, and spent a considerable time examining the exhibits. The entries in the various classes were well up to the average, and the exhibits throughout were of a very high standard.

There was good competition for Lord Ardilaun's cup for roses, which went to Mr. W. H. Calvert, of Helen's Bay, for a fine stand of blooms. Mr. C. M. Doyne, of Gorey, was successful in the class for dahlias (24 blooms), the flowers being excellent in form and quality.

The cup for carnations brought a fine prize-winning exhibit from Dr. Mark McDonadd, of Portaferry, which included the varieties—Rory Buchanan, Miss Wilmott. The sweet pea challenge cup went to Mr. Edward Cowdy for eighteen bunches, which were splendidly staged.

In class 11 for garden roses there was keen competition, but the exhibits appeared rather stiff, and scarcely did justice to these valuable decorative kinds.

Malmaison carnations were well shown, the first prize being awarded to Captain Greer for an exhibit of that excellent variety, Princess of Wales.

The fruit shown was of good quality, with most classes well filled. The loganberry is evidently gaining favour, the entries of this very useful fruit becoming more numerous each year.

A gold medal was awarded to Messrs. Drummond for their exhibit of herbaceous plants. The Japanese iris was especially noticeable, and the whole group formed a most attractive feature of the show. There was only one exhibit of vegetables, and this was very nicely staged. It is to be hoped that the classes for vegetables at the autumn show will be better filled. Anyone who has seen the magnificent displays of vegetables staged at shows in other centres cannot but deplore the very slight interest taken in this branch of the society's work.

A group of roses staged by Mr. Hugh Dickson, including the varieties Betty, Lyon, Jules Grolez, and the popular Frau. Karl Druschki, attracted much attention. Herbaceous plants were very nicely shown by Reamsbottom & Co. Messrs. Alex. Dickson & Sons, who again made use of a dark green background, had put up an excellent stand of these plants in which we noticed that particularly fine chrysanthemum maximum "Lothian Bell." Messrs. Pennick's stand included some fine cœnothas and pentillias, as well as a nice collection of rock plants.

A new sweet pea, "The Colleen," of Messrs. W. Deal, was not in very good form at the show, but it appears to be a promising variety. A first class certifi-

cate of merit was awarded to a new seedling carnation, Mrs. Laidlaw, which the judges asked to have again brought before them. The table of plants sent by her Excellency the Countess of Aberdeen, in which the carnations were particularly good, was awarded a cultural certificate. The arrangements for the show had been well thought out, and though there was at times difficulty in getting about, owing to the attention attracted by particular exhibits, there was never any confusion. The secretary has, apparently, warmed up to his work, and both he and the executive body are to be sincerely congratulated on the results of this year's summer show.

II. ROSES.

Roses at the Royal Horticultural Show were on the whole good, considering that the climate at the present time has not been genial. In some classes the competition was most spirited; and what is more satisfactory to the society than this?

In the 24 or cup class, Mr. Calvert won with a powerful and heavy stand, his best blooms being White Cochet, Mrs. T. Roosevelt, and Hugh Dickson. Dr. J. Campbell Hall was second, his box containing several seedlings of his own raising—viz., Mrs. J. C. Hall, (Tea), Mrs. Daere Hamilton, and an unnamed seedling of a fine scarlet colour. In the 18 H. T.s, Dr. O'Donel Browne showed a level, even lot, for which he was awarded first prize, his best blooms being J. B. Clark, Mildred Grant, and Marquise of Lita. Dr. Campbell Hall was a close second, his best bloom being Killarney. There was spirited competition in the 12 blooms. In the six lights (or six any one variety) there was a great turn out, nearly all the exhibitors using Frau. K. Druschki (purest white). This class was well won by Mr. Crozier, Dr. Browne being a very close second. The six darks were poor. In the smaller classes perhaps the best and neatest was Mrs. M'Camus' stand of twelve blooms—clean, fresh, and very level and even in size. In the biggest class for Teas Dr. Browne had a walk over, his best being White Cochet and Mme. Constant Souper. The other Teas were good, Maman Cochet being very prominent.

Turning to the nurserymen, Messrs. Hugh Dickson were first, beating Messrs. Alex. Dickson in the 72 and 12 new roses, but the order was reversed in the 24 Teas. Both firms were very strong, and showed remarkable blooms. In Hugh Dickson's stand the best blooms were Hugh Dickson, Lyon Rose (superb), Comtesse de Ludre, Horace Vernet, Charles J. Grahame (very fine), and Lohengrin. Alex. Dickson showed many seedlings, notable amongst which were Brightness (grand), George Dickson, Lady Helen Vincent, Nita Weldon. In the 24 Teas Alex. Dickson were alone, their box containing lovely novelties to this grand class—Mrs. Mawley, Mrs. Foley Hobbs, Alex. Hill Gray, Nita Weldon, and many others. In the 12 new amongst Hugh Dickson's flowers I saw Lyon Rose (grand), Mrs. Stewart Clarke, Renee Wilmart-Urban, whilst Alex. Dickson showed magnificent blooms of Avoca, Nita Weldon, W. E. Lippiatt. The class for table of roses was left alone to Hugh Dickson, who did it splendidly, but it was lost in being placed in the sweet pea tent.

"Srv."

III. SWEET PEAS.

EVERYBODY said that July 20 was a most unsuitable date to select for the summer show of the Royal Horticultural Society, and what everybody says must be true. It would be too late for roses, too early for sweet peas. Why extend possibly a carnation's time, or dahlias? It was surely absurd. And yet, somehow, the show was a distinct success from an exhibitor's point of view; the roses were all here and the sweet peas, lilies, and even the dahlias, in splendid condition. True, the carnations were not so well represented, but what were shown were beauties. The cold, unsummerlike weather we have been enduring probably delayed the roses, but nothing short of very early sowing, careful nurture in the cold spring days, judicious shelter, close attention, generous feeding, on thisiasm, the enthusiasm of the amateur, could have produced such sweet peas in such an unreasonable July. Strangest of all, in such a late season, nearly all the big prizes went to the North of Ireland, where everything is supposed to be much later than in the midland counties. The Ardium cup for roses went to the County Down, as also the Society's cup for carnations, which was won right out this time by Dr. Mark McDonald. The Edmondson cup, presented by Messrs. Edmondson Brothers, for eighteen bunches of sweet peas, went to the County Armagh, won also right out by Mr. Edward Cowdy the third year in succession, and the Nutting cup for nine bunches has gone to the County Tyrone, though Kildare was very close at hand; the wonder of it is how this has been done—it has been done, and we can only conclude that our Northern friends are more enthusiastic about their shows; we know they attend in bigger numbers in Belfast than in Dublin, and they have now shown us what they can do culturally under such unfavourable conditions.

It is probable that the close proximity of the world-renowned nurseries at Newtownards, Belmont (Belfast), and Portadown have been helpful to our Northern amateurs, giving them a stimulus that we in the midland and southern counties lack; but be that as it may, their exhibits have been eye openers, and we have yet to learn how it is done.

Sweet peas filled almost entirely the huge 150-foot tent; true, there were some blanks owing to the late season. We missed such consistent exhibitors and prize-winners as Colonel Crichton, Miss Berta Doyne, and others, who not only failed to exhibit, but also failed to grace the show with their presence. About 600 bunches were staged, and the competition was so keen that the judges, the Rev. MacDuff Simpson and Mr. Digges, had no easy task—indeed, the chairman of the Council, when handing them their credentials, sympathetically enquired if they would wish him to wire to Portrane to secure accommodation for them when they had finished.

The Edmondson cup was won right out, as has been mentioned, by Mr. Edward Cowdy, of Loughgall, with blooms of enormous size and substance, great length of stem and depth of colour, and though they may not have been quite as clean as some of the other entries in this class owing to climatic exigencies, the cultivation which produced such huge blooms could not be

ignored. Lord Dunleath and Mrs. Summers were second and third respectively with flowers of excellent quality, there being very little to choose between them. Mr. H. E. White and Miss Osborne were highly commended for beautifully clean blooms, very nicely staged.

There were no less than 17 entries for the very hard, some challenge cup presented by Sir John Nutting for nine bunches, and here the judges had their greatest difficulty owing to the super-excellence of nearly half the entries. Eventually the cup was awarded to Mr. James Hall, of Moy, for magnificent blooms with great depth of colour, Dr. O'Donel Browne being a very close second, Lord Dunleath third, Mrs. Alfred West and Mrs. Goodbody each highly commended.

Prizes were presented by Mr. Henry Eckford, sweet pea specialist at Wem, the pioneer of the great improvement in sweet peas which has marked the close of the last century and the beginning of the present one. First, for twelve bunches distinct varieties. For this there were four entries, the awards being Mr. G. Hamilton Stubber, 1st; Mr. Michael Moran, 2nd; and the Marquis of Ormonde, 3rd—all being of very even quality and in splendid condition. Second, for six bunches distinct varieties, and here there were nineteen entries, the prizes being awarded as follows, viz.:—Dr. O'Donel Browne, 1st; Mr. R. J. C. Mansell, 2nd; Mrs. Goodbody, 3rd; Mr. C. W. Parr and Mr. F. V. Westby each highly commended, the blooms being perfectly wonderful considering the mixed samples of weather of the present season.

Prizes were also offered in twenty classes for single bunches selected from the Classification List of the National Sweet Pea Society, and in these classes six prizes were won by Mrs. Alfred West, six by Mrs. Fowler, three each by Mrs. Goodbody and Dr. O'Donel Browne, two each by Miss Osborne, Miss A. J. M. Smyth, Mr. James Hall, and Mr. C. W. Parr. Prizes were also won in these classes by Mrs. Wylie, Mr. F. V. Westby, Miss J. M. Field, and Mr. R. E. Odium. This year does not appear to have been a good one for blues, purples or magentas, as no awards were given for these colours, but a very beautiful bunch of *Mid Blue*, a new variety, and which seems to be a truer blue than any previously produced, was shown by Mr. H. E. White, for which a special prize was recommended by the judges, this variety not being in the specification list.

The feature of the show was the great absence of the older varieties in the winning exhibits and the overwhelming excellence of the newer varieties as shown. Evelyn Hennis, Helen Lewis, Mrs. Hardenstele Sykes, Elsie Herbert, Constance Oliver, Dodwell F. Browne, Frank Dolby, Etta Dyke, Primrose Waived, Mrs. Charles Masters, and Mrs. A. Ireland were all shown in splendid form.

Mention must also be made of the magnificent collection of sweet peas exhibited by Messrs. Alex. Dickson & Sons, of Newtownards and Blackrock, spotlessly clean, fresh, and beautifully staged, some of their new varieties being most chaste flowers of delicate and bewitching shades and of robust habit, such as Dickson's Lavender Spencer, Dickson's Rose Spencer, Dickson's Primrose Spencer, Navy Blue Spencer, Paradise Carmine, Prince of Asturias, The Marquis, Olive Ruffell, Mrs. Andrew

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Does not change colour or darken . . Permanent
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Much better than any other paint of similar nature

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For Sweet Peas & Vegetables

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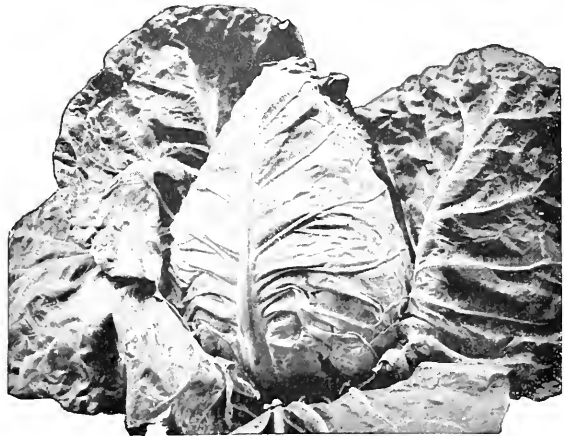
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Hardy Border Carnations.

THESE are now in their glory, and nowhere in Ireland is to be seen so large or complete a collection as at Messrs. Watson's Nurseries, Clontarf, where the hardy border Carnation has long been a speciality, a fact familiar to most of our readers who frequent flower shows, for Watson's Carnations have won numerous gold and silver medals and money awards in Ireland, England and Scotland. It will be found much more satisfactory to choose varieties in flower than from a printed catalogue, and a visit to the nurseries will be repaid not only by an inspection of the Carnations, which are very good this year, but other things of interest may be seen.

For some years Messrs. Watson have been striving to secure a race of genuinely hardy border Carnations, not so-called "border" sorts (such as we see at the principal English Shows), which have been grown in pots under glass, and often fail utterly out of doors.

At Clontarf all varieties are subjected to the severe test of autumn planting, being grown throughout the winter, unprotected, in the beds in which they are to flower the following year. Any kind which succumbs under this treatment is discarded, and the result is apparent in the health, vigour and wealth of bloom on the present year's plants. Messrs. Watson are pleased to see anyone interested in Carnations who may find time to inspect their stock at Clontarf, and the nurseries are quickly reached by tram from Nelson's Pillar, and situated beside Clontarf Railway Station (G. N. Ry.).

Ireland, Asta Ohn Spencer, Chrissie Unwin, Aurora Spencer, Zephyr, Lady Athorp, Countess Spencer, Frank Dolby, Mrs. Henry Bell, A. W. Taylor, Mrs. Wilcox, Elsie Herbert, Purple Prince, Helen Lewis, Elegance, Mid Blue, King Edward Spencer, Apple Blossom Spencer, Mrs. Hardcastle Sykes, Constance Oliver, Marjorie Willis, Paradise Ivory. M. I. G.

Stillorgan and Foxrock Horticultural Society.

THE first show of this society was held in the grounds of the Convalescent Home, Stillorgan, on July 23rd. The quality of the exhibits was particularly good. Herbaceous plants made a very attractive feature of the show. The principal prize-winners in this section were Mr. W. Ireland Good and Mrs. Keith. Although an unfavourable season, roses were in excellent bloom, strong and healthy, and the prize-winners included Messrs. F. A. Millar, F. R. M. Grozier, and T. F. Crozier. The fruit was of fine size and excellent quality, Mr. Marcus Goodbody and Mrs. Barrington Jellett being two of the most successful competitors. An exhibitor from Athlone, Mrs. Longworth Dames, was the most successful in the class for vegetables. A very nice collection of decorative plants, including some fine Antirrhinums, was staged "not for competition" by Mrs. Goodbody, of Obelisk Park, and a fine lot of carnations by Mr. Stapleton, of Dalkey. The exhibits were placed in three tents, and the hon. sec., Mr. T. F. Crozier, who has been untiring in his efforts for the success of the show, is to be heartily congratulated on the perfection of the

Kingstown Horticultural Society

Entries close August 4th
Special Amateur Classes

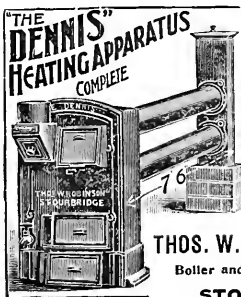
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Each gallon makes from 80 to 100 gallons ready for use
20 galls., 3 4 per gall.) In 5 gall. drums, charged to
10 galls., 3 5 per gall.) half cost. 9d. each.
5 galls., 3 6 per gall.) NOT RETURNABLE.
1 gall., 4 7; ½ gall., 2 4; 1 quart, 1 5. Tins Free.

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SPECIAL CONCENTRATED STRENGTH (1 to 80), 3 gall. drums, 14/6; 6 gall. drums, £1 8/; 12 galls. (in 2-6 gall. drums), £2 7/6; 24 galls. (in 4-6 gall. drums), £4 10

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No possible injury to the most delicate Plant, Flower or Foliage.
It is by far the cheapest Insecticide known. One pint makes ten to twelve gallons for Thrip, Black and Green Fly, &c., whilst RED SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by using “NIQUAS,” about double the strength required for Fly.

It is most successfully used by Orange and other Fruit Growers in the Colonies, &c.

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Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet, price 1/- each. Cone No. 2, for a well-secured house of cubic 1,000 to 1,200 feet, price 8d., each. Cone No. 1, Cat-bon, for frames cubic 100 feet, price 6d., each. Full directions accompany each Cone.

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arrangements and on the very tasteful effect produced by the neat staging and grouping of the various classes.

L. S. H.

Fermoy Sweet Pea and Rose Show.

THE North Cork Horticultural Society held their Sweet Pea and Rose Show in the Assembly Rooms, Fermoy, on Tuesday, 6th July.

Class 1, for the best collection of sweet peas, not less than five and not more than twelve sprays. There were five entries. First prize, Mrs. Percival Maxwell; second prize, Mr. H. Tidman.

Class 2, for the best twelve bunches of sweet peas, each bunch a distinct colour, not less than five and not more than twelve sprays of each colour. First prize, Mrs. Brodie; second prize, Mrs. Bond.

Class 3, for the best six bunches of sweet peas, each bunch a distinct colour, not less than five and not more than twelve sprays of each colour. First prize, Mr. H. Tidman; second prize, Mrs. Bury Barry.

Class 4, for the two best bunches of mixed sweet peas, not less than twelve sprays in each bunch. First prize, Mrs. Percival Maxwell; second prize, Mr. H. Tidman.

Class 5, for the best collection of roses, comprising all kinds, not more than three trusses of Rambler roses, First prize, Mrs. Percival Maxwell; second prize, Mrs. Bury Barry. There were five entries.

Class 6, for the best collection of six different kinds of roses. Ramblers excluded. Not less than three blooms in each bunch. First prize, Mrs. Beacher; second prize, Mrs. Grant.

Class 7, for the best two bunches of any one kind of rose. Ramblers excluded. Not less than three blooms in each bunch. First prize, Mrs. Brodie; second prize, Mrs. Acheson. There were nine entries.

Class 8, for the best collection of hardy perennials, bulbs and alpine. Not less than two blooms of each. First prize, Miss Lucas; second prize, Mrs. Drew.

Class 9, for the best collection of annuals and biennials. Not less than three blooms of each. First prize, Miss Lucas; second prize, Mrs. Drew.

Class 10, for the best collection of six different kinds

of zonal pelargoniums. Not less than two trusses of each. First prize, Miss Abbott; second, Miss Hendly.

Class 11, for the best four pots of regal or show pelargoniums. First prize, Miss Abbott.

Class 12, for the best arranged vase of flowers, any kind. Nobody allowed to help exhibitors. For children only. First prize, Miss E. Montgomery; second prize, Miss Annie Fluery; third prize, Miss M. Cook-Collis.

Class 13, for the best luncheon table arrangement. Any flowers and foliage used. First prize, Mrs. Atlee; second prize, Mrs. Watt. There were six entries.

Great credit was due to Mr. H. J. Lucas, Hon. Sec., and Committee, for the admirable way they looked after the wants of the competitors.

Judges—Captain and Mrs. Brazier-Creagh, Creagh Castle, Doneraile.

JOHN DEVINE, Kilworth.

Clonakilty Show.

Flower, Fruit, and Vegetable Section.

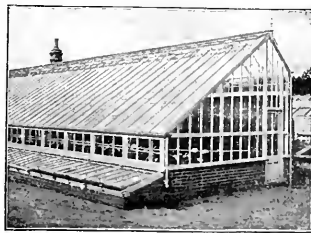
THE ninth annual show of the Agricultural Society was held in the spacious and well equipped grounds, on Thursday, July 1st, and, like its predecessors, proved a magnificent success.

The officers of the society have displayed so much energetic interest in the promotion of the horticultural department that this section was one of the glories of the show. The Committee has recognised the necessity of a liberal schedule to ensure a good competition and the staging of products of a high order of merit, and it has not lost sight of other attractions, and especially of engaging the best military bands. This year the entries were so largely in excess of any previous occasion that it had evidently no easy task to provide accommodation for the products. This show proves what progress horticulture is making in South Cork.

Cut Flowers.—Roses, geraniums and sweet peas were contributed in enormous quantities, and of themselves formed a large and attractive exhibition.

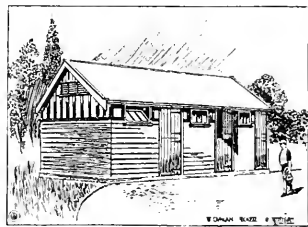
Amateurs.—In the class for six varieties of roses, Mrs. J. C. O'Sullivan led the way with very beautiful blooms of Frau. Karl Druschki, Mrs. John Laing, Paul Neron,

WM. DUNCAN TUCKER & SONS, Ltd. Telegrams— "Anti-Drip, London"



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(FUMIGANT.)

	each	each
	cube ft.	d.
Half Gallon Tin contains sufficient for 100,000	60	0
No. 1 size Tin—1 pint	4,000	15
No. 2 size Tin—3 pint	3,000	7
No. 3 size Bot.—6 oz.	12,000	4
No. 4 size Bot. 4 oz.	5,000	3
No. 4 1/2 size Bot.—2 1/2 oz.	4,000	1
No. 3 size Bot.—1 1/2 oz.	1,000	0

Carriage Paid.

FUMIGATORS.

1s. each, for 1,000 cubic feet
NICOTICIDE PLANT SPRAY.
 (Use 1 part to 40 parts water for Greenhouse.)

3-pint, 1s. 2d. Pint, 2s.
 Quart, 3s. 6d. 1-gal., 5s.
 Gallon, 10s. Carriage paid.



GOW'S LAWN SAND DAISY ERADICATOR.

28 lbs. to dress 100 square yards, 7s. 6d.;
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 Being a Combined Fertilizer.

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 AND LAWN SAND**

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1 pint, to make 50 gals., in 1 1/2 lbs. No. 1 Tin, 2s., to make 20 gals.
 2 1/2 lbs. No. 2 Tin, 6s., to make 100 gals.
 5 lbs. 2s. 6d. Carriage paid. 100 lbs. 10s. 6d. Carriage paid.

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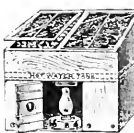
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1 Gal'oon makes 100 Galloons of Spray Mixture.

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The Soil Fumigant

Destroys underground pests, including WIRE-WORMS and Grubs of all kinds, Slugs, Ants, Millipedes, &c.

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A Concentrated Weed-Killer

Destroys Grass and Weeds on Garden Paths.

Full particulars & prices from the Sole Mfrs.,

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Weeds Killed: Grass Invigorated by

"CLIMAX" LAWN SAND

When applied during dry weather daisies and other weeds are destroyed and a fine growth of grass quickly covers the places occupied by disturbing weeds. Thousands of weedy and poor lawns have been transformed by Climax Lawn Sand. Why not yours? Try it now. 7lbs. 2s., 14lbs. 3s. 6d., 28lbs. 6s., 56lbs. 11s., 112lbs. 20s. Carriage paid. Sample Tin 1s. 3d., post free.



PROTECT YOUR PLANTS From Slugs, Crabs, Caterpillars, Ants, Wireworm, and the Domestic Cat—

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On Garden Paths, Carriage Drives, &c.

By "CLIMAX" WEED KILLER

ONE APPLICATION KEEPS Down every growth for 12 months. No hoeing or weeding. PATHS ALWAYS BRIGHT AND CLEAN. No. 1 Tin to dress 100 square yards, 2s. 2 Tins 3s. 6d. Post free. No. 2 Tin to dress 400 square yds. 6s. 6d. 2 Tins 12s. 6d. Carriage paid.

BOUNDARY CHEMICAL CO., Ltd.
 Cranmer St., LIVERPOOL

Duke of Edinburgh, Ulrich Brunner, and Victor Hugo. A magnificent display of sweet pea filling the whole length of one table; some of the finest were King Edward VII., Miss Wilmott, Nora Unwin, Gladys Unwin, Lady Grisel Hamilton and Navy Blue.

Fruit and Vegetables.—In the fruit and vegetable section there were many classes, and all the prizes were well contested. Mr. J. W. Bennett staged a dish of strawberries which was deserving of much commendation. For green gooseberries Mr. W. G. Keywood staged the premier collection. Cucumbers were largely staged. Mr. A. Jenkins first with a good form of Telegraph. One of the principal features of the big tent was the wonderful display of potatoes. The leading varieties were Epicure and Ninety-fold. The exhibits were close in order of merit, and displayed to the best advantage.

The principal prize winners were A. Jenkins, Miss K. French, Mrs. O'Sullivan, Mrs. Crowley, J. W. Bennett, W. Bateman, Mrs. D. T. Donovan, Major A. P. Longfield, Mrs. French, Mrs. Hawkes, W. G. Keywood, J. Crowley.

Notes.

AN INTERESTING NURSERY.—Plant breeding, owing to the impetus given to it by the discoveries of Mendel, has now become a subject of great practical interest. But many years before Mendelism was embraced by the modern breeder, the late Mr. Thomas Laxton, founder of the present Bedford firm of Laxton Bros., was carrying on experiments in hybridisation, notably with garden peas and strawberries. He was induced to start this work by his friends, Dr. McLean and Charles Darwin, and reference is made to his results in the cross-breeding of peas in Darwin's work on "Plants and Animals under Domestication." Among Laxton's success in the raising of new peas may be mentioned Supreme (his first), William 1st., William Hurst, Earliest of All, Gradus and Alderman. In strawberries his success was equally great, as has he not given us, amongst others, the "Royal Sovereign" (sent out in 1893), the most popular strawberry at present grown? The present firm is keeping up the traditions of the name, and each season we have two or more new strawberries added to our list. It is needless to give names, as we all know such favourites as the Laxton, the Bedford, Leader, Bedford Champion (claimed to be the biggest strawberry in the world), Reliance, Cropper, &c., &c. The latest are Utility and Rival of the present season. Everyone interested in strawberry culture should obtain the latest catalogue of the firm, in which full descriptions will be found of all the varieties.

THE Town Council of Wrexham having invited competitive designs for laying out their public park, the first premium for the best design has been awarded to Messrs. Cheal and Sons of Crawley.

THE Banbridge Horticultural and Agricultural Association will hold its annual show on Tuesday, the 24th of the present month. Several leading nurserymen have promised to stage exhibits. The show will be opened by Mrs. N. D. Ferguson, wife of the president. Mr. R. Allingham, Glencar, Banbridge, is the secretary.

TWO NEW INSECTICIDES.—Our attention has been drawn to two recently introduced insecticides—one in powder and the other in liquid form—and known as Cliff's Insecticide. The powder insecticide is claimed to be a most effective remedy for soil grubs, leather-jackets, wire-worms, cabbage fly grubs, millipedes &c., as well as slugs and snails (our own remedy for the latter, by the way, is ducks!). The liquid preparation, it is further said, may be used with perfect safety for watering the soil or lawns at the rate of five parts to 100 of water, the liquid killing soil grubs, worms, and slugs. It may also be used as a spraying fluid. Messrs. Robinson Bros. of West Bromwich are the manufacturers.

Catalogues.

BORDER CARNATIONS AND PICOTEES, ALSO MALMAISON AND PERPETUAL FLOWERING CARNATIONS.—This is the title of an illustrated list, sent out by Hayward Mathias, of plants grown at his nurseries at Medstead, Hants. The list is a descriptive one, and gardeners will find it convenient for reference. We have noticed that Mr. Mathias has won, during the past month, several gold medals, certificates, and prizes for various classes of carnations.

BULBS, &c., 1909, is a well illustrated booklet sent to us by Messrs. Little and Ballantyne. The "&c." includes fruit trees and hardy perennials.

HARTLAND'S "NEW AND RARE SEEDLING DAFFODILS AND NARCISSUS" is a list issued from Ard-Cairn of varieties "selected from all the principal growers, including what we ourselves have raised." The prices per bulb range from Polly Eccles at half-a-crown to Jasper, for which a price of £30 is demanded. It is certainly a very interesting list, and as all the varieties are described it is worth securing.

Vegetable, Flower, and Farm Seeds

From the Finest Stocks and Strains in Cultivation.

Catalogue Post Free.

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Seedsman, CORK.

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PRICES—
2/5, 2/2, 2/-,
1/10, 1/8, 1/6,
1/4, 1/2.

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2/5, 2/2, 2/-,
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1/4, 1/2.

8 Sth. Gt. George's St.
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Miscellaneous Section

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AND FOR

YEARS AND YEARS PAST

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"XL-ALL" FERTILISER has pleased all who have used it.

The sales of "XL-ALL" FUMIGATOR prove that it is more popular than ever.

"XL-ALL" LIQUID NICOTINE INSECTICIDE is always spoken of by gardeners and growers as the most deadly to Mealy Bug, Thrips, &c.

"XL-ALL" WEED KILLER, used once a year, no weeds can live.

RICHARDS' ARSENATE OF LEAD for all haunting insects.

CUCASA (fungicide), the most perfect preparation of Copper ever offered to gardeners.

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FOR VINES,
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FRUIT BEARING
PLANTS,
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Soles of Best English Sole Leather
Waterproofed with Motor Tyre
Rubber Studs or Solid Rubber.
Fig. 1 can be refitted, repeatedly,
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strongly recommended.

FIG. 1

Silver Medal—Royal Horticultural Society.

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FIG. 2

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never feel foot weary. Why
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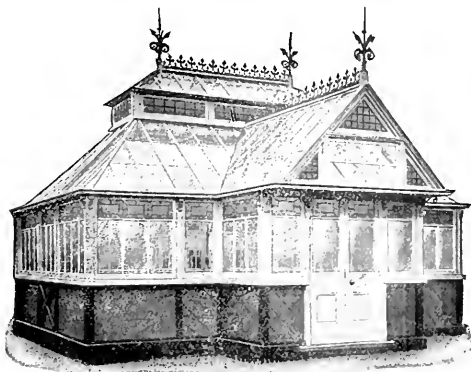
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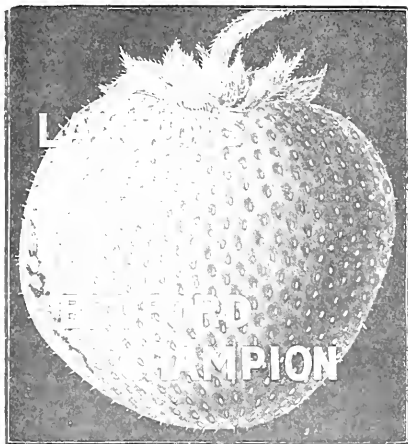
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IT should be known that our WM. BAYLOR
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of these popular flowers for many years.
It is, we hope, not too much to mention that
he has been also the means, as far back as 1884,
of giving great impulse to many English
growers over this industry, extending our
efforts not only to the Dutch, but both to the
Scilly and Channel Islands. This year we have
a most unique year for their harvesting, hence
very high quality. Most of the new Seedlings
worth growing we are also offering. Our List
is quite replete with them, and parties wishing
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pass on their orders to the old firm of—

Wm. Baylor Hartland & Sons

Royal Seedsmen and Bulb Growers

—CORK, IRELAND—

∴ Write for List of Irish Apple Trees also

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If you wish to keep your—

Garden and Greenhouse

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Insects, Mildew, Caterpillars, &c.

It is absolutely essential to use—

“**ABOL**” (NON-POISONOUS) **White's Superior, Insecticide**

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“The fluid is excellent, and I think it is proving to be even better than I thought it to be last year—which is saying much.”

“GENTLEMEN,—I have tried your **Abol, White's Superior**, and think I have never used a more effective or safer insecticide to plants in growth. Its behaviour last summer upon the Plum Aphid, &c., was most satisfactory in all respects.—Yours faithfully,

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“Your ‘**Abol**’ Syringe is quite a revelation.”

“A perfect garden sprayer and syringe combined.”

“It is without doubt the best syringe invented.”

“Cannot be too widely known.”

“I think the syringe is grand.”

“Most valued implement in the garden.”

“Best I have ever seen.”

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Telephone No. 12, PADDOCK WOOD

A Field Day for Kerry Gardeners.

THURSDAY, the 12th of August last, will remain long in the memories of those who accepted the kind invitation of J. D. Crosbie, Esq., J.P., D.L., to visit the gardens and grounds of Ballyheigue Castle. The invitation was given to the principal gardeners of Kerry, through Mr. Crosbie's head gardener, Mr. Colthrop, who acted as guide during the day. On arrival at Ardert railway station a large motor car was waiting to convey the party through seven miles of delightful country to the gates of the historic castle, that stands aloft commanding the beautiful bay. It was a glorious ride, and the party arrived in high spirits. At once the guests were ushered under canvas to lunch—a right royal lunch—with course following course, and ending with a dessert including all the fruits in season, the choicest products of Kerry and of Mr. Colthrop's skill in gardening. After lunch a start was made for the gardens and plant-houses, the inspection of which gave great delight to the practical eye of the experienced visitors, everything was so well ordered and arranged. Particular interest was centred upon a new span-roofed house, its contained plants being in the best of health and condition. The vegetable garden was keenly scrutinised, and Mr. Colthrop was repeatedly complimented upon its appearance, which most certainly showed evidence of considerable skill in its management. In an interval before tea opportunity was taken to have a dip in the sea, and after tea (laid out in the same lavish style as the lunch) there were speeches, in which votes of thanks were given to the host and hostess of the day, Mr. and Mrs. Crosbie. There never were such downright hearty thanks ever felt before by visitors as by the Kerry gardeners at Ballyheigue Castle that day. It was started by Mr. Ogge, of Ardert, taken up by Mr. Rooney, of Oakpark, and emphasised, ornamented, and finally finished off by Mr. J. M. Hurley, of the Castle Demesne, Tralee, in a racy speech that ended in tumultuous applause by the departing guests. Will other Kerry gentry please note?

Royal Horticultural Society of Ireland.

THE monthly meeting of the council was held at the society's offices, 5 Molesworth Street, Dublin, on August 13th, members present being—Messrs. Ernest Bewley, T.C., W. F. Gunn, W. J. Mitchison, Jas. McDonough, J. Wylie-Henderson, Ed. D'Olier, H. P. Goodbody, with Mr. G. M. Ross presiding.

The balance sheet of the summer show was submitted and approved of, although it would have been a commendable feature of what was generally considered a good show if the gate takings had gone a little further towards meeting the heavy expenses always entailed by an exhibition under canvas. However, there was a slight improvement on the last Merriem Square display held two years previously. On the recommendation of the Finance Committee sundry accounts were ordered to be paid, and also the cash prizes to the winners. The schedule of the spring show, 1910, as revised by the Schedule Committee and amended by the council, was ordered to be printed (copies of which have been posted to all exhibitors at the last two Spring Shows, and will be furnished by the Secretary on application from others wishing to have it), and it has been decided that three-tier staging will be provided for all classes of cut narcissi in competition, although it is left to

exhibitors' discretion to bunch their blooms or arrange them naturally, which, probably, will appeal to most, and, possibly, to the judges. Many of the winter show schedules have now been circulated in country districts on the application of the Horticultural Instructors, and this will doubtless help the competition, and show what Ireland can do with the king of fruits, the apple. Altogether, we think it probable that the coming fruit show (Oct. 20th and 21st) will rank amongst the best yet held by the society, as our "wretched climate" gives good promise of high quality in this direction, as well as quantity. An exhibit of gladioli was sent for the council's inspection by Messrs. Kelway of Langport, Somerset, the thanks of the council being accorded for same. The following were elected members—Mrs. Hare and Miss L. Hare, Berkeley, Sydney Parade; Mrs. Dames-Longworth, Creggan, Athlone; Mrs. Keith, Bremanstown, Cabinteely; Jas. Hall, Esq., Moy, Tyrone; Miss Fair, Shanganagh Park, Shankhill, and Mr. Alex. Langmuir, The Gardens, The Elms, Blackrock.

SHOWS.

Kingstown Flower Show.

THE Kingstown Horticultural Society held their first exhibition on August 11th in the People's Park, Kingstown. The idea of holding a show originated in one of the meetings held by the Kingstown Gardeners' Society, and it must have been more than gratifying to the members of that society to see such a magnificent respond to their modest appeal.

From the beginning success was assured. A committee was formed, comprising ladies and gentlemen of influence residing in Kingstown and neighbouring districts, who, together with practical gardeners selected by the Kingstown Gardeners' Society, worked harmoniously and well, never doubting but that the people of Kingstown would appreciate the effort made to give them a flower show exclusively their own, but the most sanguine member of the committee never perhaps imagined that their initial effort would meet with such overwhelming success.

The weather was delightfully fine. The attendance was very large, swelled probably on account of the visit of Lady Aberdeen, who once again graciously demonstrated her interest in all things Irish.

Turning to the show proper, the entries were numerous (450), yet out of that great number not one exhibit could be pointed out that did not show good cultural knowledge, and for once it was a pleasure to see amateur and professional gardeners in friendly combat. Everything worked as smoothly as an oiled machine, and certainly too much praise cannot be given to the hon. secretary, Mr. Humphrey, for the perfect arrangements made.

Roses were not plentiful on account of the late date, but were very good, especially the exhibit staged by Mr. W. Usher, gardener to Mrs. Keith, Bremanstown, who won the class for eighteen blooms. Among other winners in rose classes were Messrs. Crozier, David Drinnie and G. C. Stapleton. For a prettily arranged basket of roses Miss Murphy, Monkstown, won the silver medal.

Cactus dahlias were good—the challenge cup presented by Mr. St. George Lyon was won by Mr. Ross, Mrs. Alfred West, Kileroney, Bray, being a good second, the class for six blooms going to Mr. Stapleton.

Begonias were admirably staged by Messrs. Crozier and Stapleton. Greenhouse plants were numerous, Mr. Stanley Cochrane, Woodbrook, Bray, winning with six well-grown plants (gardener, Mr. George Bower).

Carnations were excellent, first prize winners being

September Work.

THIS is an excellent month for garden work, especially for alterations and additions to the herbaceous garden, as all classes of herbaceous perennials, rock plants, &c., will now move extremely well and become established before the winter, thus ensuring the best results for the coming year. Ground for carnations should be prepared at once, and the layers planted at the end of September or in October as early as sufficiently rooted. If the soil is too heavy, plenty of coarse sand, road-scrappings, or sifted mortar rubbish should be added. Dig the ground two spades deep, adding a liberal supply of well-rotted manure, and the screened ashes from a fire of garden refuse, weeds, &c. In no case should fresh manure be used, and it is well to see that even the old manure is about one spade deep below the surface. Autumn planting is productive of by far the best results, and those who require genuinely hardy varieties should send for the Special Carnation Catalogue published by Messrs. Watson & Sons, Clontarf Nurseries, Dublin, as they make a speciality of the right kinds for the hardy border, and grow all their large collection out of doors the year round. This firm has won numerous gold and silver medals and money prizes for their Carnations, many of them being of their own raising, and all admirably adapted for garden-culture. All sorts of hardy perennials and garden flowers are well done by the same firm. Beautiful collections of Delphiniums, Phloxes, Pyrethrums, Peonies, &c., have been seen in bloom at Clontarf during their respective flowering seasons, and all may now be planted to advantage.

Mr. Edward Kelly (2), Mr. F. V. Westby and H. F. Carroll.

In hardy flowers Mrs. Keith and Miss Sullivan took premier places, while first for annuals went to Mr. Ross, Miss Gladys Wetherhill, and Mr. Blacker Douglas.

Sweet peas were the leading feature. Mrs. Alfred West, Kileroney, leading in three classes, other first prizes being won by Mr. C. Parr (who came up from the Royal county), Mrs. Maffett, and Mr. Kelly. The cup presented by Mr. Alfred Manning, president, K.G.S., was perhaps the most desired of all prizes among professional gardeners. The second and third prizes were substantial, being the joint gifts of Mr. W. A. Evans, chairman, Kingstown Urban Council, and Mr. R. Supple, one of the hon. sees., K.H.S. The cup was won by Mr. Charles Coster, gardener to Mrs. Alfred West, Messrs. W. Usher and Thomas Pierce being second and third respectively.

Fruit classes were well filled, grapes and peaches leading. The class for white grapes was won by Mrs. Alfred West; second, Mr. F. V. Westby. The order was reversed in black—Mr. Westby leading, Mrs. Alfred West, second; Mr. Stanley Cochrane, third. First prize for peaches also fell to Mr. Westby. Melons went to Judge Bird and Mr. Drimmie. Small fruits were plentiful and good. Mr. Blacker Douglas won five firsts. Mr. Crozier won with some tempting strawberries, Judge Bird and Mrs. Blake being winners in this section also.

Vegetables were well shown, Mr. Stanley Cochrane being first for twelve kinds, the class for six going to Mr. Paul Gleeson; six kinds (amateurs) was won by Mr. G. Bray; single vegetable classes were won by Dr. Tembe Athill (2), Mr. Blacker Douglas (2), T. W. Russell, Esq., M.P.; Mrs. Blake, Judge Bird, Mr. David Drimmie and Mrs. Middleton Curtis.

The nurserymen made a grand show. Messrs. Alex. Dickson, Dublin, had a fine collection of roses and sweet peas, one vase of their famous rose, Irish Elegance, claiming much attention. Messrs. Rowan had splendid samples of potatoes and some fine vases of asters; Messrs. Watson staged carnations; Messrs. Browett, foliage and herbaceous plants; Mr. Anketell Jones, Kilkenny, good gladioli, dahlias and sweet peas; Messrs. Ramsay, flowering plants and dahlias; a charming rockery by Messrs. Pennick, Delgany, and a stand of horticultural pottery by Messrs. McCormick all helped to make up one of the finest exhibitions held this season.

The band of the 2nd Batt. Wiltshire Regiment played a pleasing selection during the afternoon.—C. E. C.

Clare Horticultural Society.

THE annual show of this flourishing society was held on the 28th of July last. There was a large attendance. The exhibits were well up to the usual standard so far as number was concerned, but the quality of the vegetables especially were, on the whole, lower than usual, although the exhibit gaining the "Jones Challenge Cup" was of quite exceptional merit (Lord Inchiquin; gardener, Mr. J. Carter). Considering the season the cottager section showed splendid endeavour.

In the flower section sweet peas were first favourites. Splendid blooms were shown, and the judges had evidently a most difficult task in awarding the prizes. It appeared almost invidious to make awards.

The herbaceous and bulbous flower section was (and always is) a popular one in Clare (which speaks well for the good taste of the county gardeners), and here again the judges were placed in a tight corner owing to the evenness of the exhibits. There was but one trade exhibit, Mr. Jones, F.R.H.S., of Kilkenny, who staged dahlias, gladioli, Rambler roses, &c., with his usual good taste. The stand was very attractive, one item of great interest being a new dwarf lobelia exhibited by him for the first time in Ireland.

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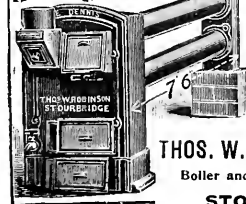
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	each	per doz
Artemis	5 4	5 4
Cassandra	0 0	7 6
Dorothy Kingsmill	1 6	15 0
Elaine	30 0	—
Firebrand	3 6	37 6
Flamingo	2 0	21 0
Golden Bell	1 0	12 0
Golden Bell	1 0	10 6
Homer	1 0	18 6
Incognita	20 0	—
Judge Bird	45 0	—
Lady Gore Booth	1 1	12 6
Maggie May	15 0	—
Mars	3 6	37 6
Oriflamme	2 0	21 0
Peach	1 0	10 0
Phyllis	0 5	4 0
Seagull	0 8	6 0
Sirius	0 10	8 6
White Lady	1 0	10 0
White Wing	0 4	3 0

A few good standard varieties for early potting—

	per doz.	per 100
H. Irving (the earliest yellow)	1 1	7 6
Golden Spur	1 4	0 6
Emperor	1 1	7 6
Cerinus (pure white)	1 6	10 6
Minnie Home (beautiful in pots)	0 6	3 6
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No possible injury to the most delicate Plant, Flower or Foliage.
It is by far the cheapest Insecticide known. One pint makes ten to twelve gallons for Thrip, Black and Green Fly, &c., whilst RED SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by using "NIQUAS," about double the strength required for Fly.

It is most successfully used by Orange and other Fruit Growers in the Colonies, &c.
PRICES—Pint, 1/-; Quart, 1/9; Half-Gallon, 3/-; Gallon, 5/-; Kegs, each Five Gallons, 22/6; Ten Gallons, 42/6.

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Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet, price 1/- each. Cone No. 2, for a well-secured house of cubic 1,000 to 1,200 feet, price 8d. each. Cone No. 1, Carbon, for frames cubic 100 feet, price 6d. each. Full directions accompany each Cone.

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Roses at the Naas Show.

A most successful Horticultural Show was held at Naas last month. The exhibits were extensive and good, and the competition strong. The roses were particularly good, and well shown. In the 12 distinct Dr. O'Donel Browne was first, his best being Hugh Dickson, Madame Wagram, Maman Cochet. Mr. Mainsell was a good second. In the 6 distinct Mrs. P. J. McCann was a clear first, showing a splendid bloom of Mrs. E. Mawley. Other good flowers in her stand were Madame Wagram, Dean Hole. Mr. F. Short was second. In the amateur six Mr. F. Short was first. In the six bunches (Climbing varieties) Dr. Browne was first, and Colonel the Hon. C. Crichton second, whilst in the three bunches (Non-climbing) the order was reversed with these two competitors.

Bulb Catalogues.

To Mistress Daffodil.

Will they laugh at your old-fashioned gown,
Daffodil?

At your simple and quaint little gown,
As you enter the streets of the town;
Pass you by with a sneer and a frown,
Daffodil?

Nay tell them old fashions are best,
Daffodil.

Old friends are the dearest and best;
And the flower we would wear at our breast,
Is the one longer loved than the rest,
Daffodil.

—Margaret Johnson

HARDY BULBS, &c. T. Smith, Newry. — This appears to be a very complete catalogue of bulbous and tuberous-rooted plants. The arrangement is alphabetical, the species and varieties are clearly distinguished, and the majority of forms are briefly described. A most useful little book, well worth preserving for reference.

AUTUMN CATALOGUE OF EDMONDSON BROS. includes daffodils, hyacinths, tulips, lilies, crocus, anemones, ranunculus, gladioli, &c. It is full of beautiful illustrations, printed on plate paper from original photographs. Lists are given of bulbs and tuberous-rooted plants for forcing.

DRUMMOND'S FLOWER BULBS. — This is a large-paged catalogue, clearly printed on plate paper, and profusely illustrated with photographic reproductions of flowers. The snowdrop on page 26 is a charming little picture. Cultural directions are given in most cases.

BULBS FOR AUTUMN PLANTING. Thomas McKenzie and Sons. All the ordinary winter and spring flowering subjects are listed, while special attention is called to such as may be used for pot culture for room-decoration. Several pages are devoted to lists of garden requisites.

BULB LIST. Samuel McGreedy & Son. — This catalogue begins with bulbs for early potting, and then passes on to the various groups, giving descriptive lists and often cultural directions. This firm makes a speciality of perpetual-flowering carnations, and a list of new and popular varieties are given on page 20.

H. CANNELL & SONS' select list of strawberries and violets, giving descriptive details of new introductions of the former and all the favourite varieties of the latter.

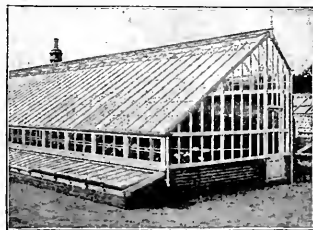
HOLLAND IN IRELAND (Robertson's Bulbs). — This is a very complete catalogue of Irish-grown bulbs, well arranged and fully described. The text is clearly printed on thin paper and the illustrations on interleaved plate paper. It is undoubtedly one of the best compiled bulb catalogues issued. The illustrations are apparently all original, and their quality may be judged from the four we use by permission in the present issue.

RITCHIE'S BULBS, TREES AND PLANTS (Belgiss). — A large-paged catalogue, with text and illustrations printed on plate paper. It contains lists, not only of all the popular bulbs, but also of sweet peas, bedding plants, hardy perennials, roses, &c., as well as of fruit trees and ornamental and flowering shrubs.

BULBS AND ROOTS. David Henry, Charlw. — A neat little descriptive catalogue with dainty illustrations. The first half only is devoted to bulbs, the rest is concerned with nursery stock, including fruit trees, roses, conifers and shrubs, concluding with hardy perennials and rock plants.

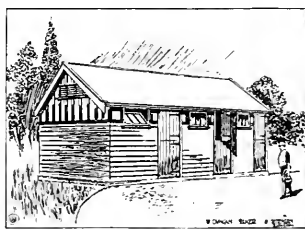
BULBS FOR GARDEN AND GREENHOUSE. Sir James W. Mackey, Ltd. — This is a descriptive catalogue of ornamental, bulbous and tuberous-rooted plants for autumn and spring planting, including all the usual kinds and varieties. It is a well-compiled booklet, clearly printed on thin plate-paper, and beautifully illustrated. Two of the illustrations (a bed of St. Bridgid Anemones, p. 3, and the flower bed on Leinster Lawn, p. 27) appeared in the August number of IRISH GARDENING by permission of Messrs. Mackey, the owner of the copyright.

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GOW'S LIQUID WEED KILLER POWDER WEED KILLER
 1 pint, to make 50 gals., in tin, 7s. 6d. No. 1 Tin, 2s., to make 25 gals. 5s. No. 2 Tin, 6s. 10s.
 *Drops free. Carriage paid. Tins free. Carriage paid.

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SAVES WEARY WEEDING.
 50 gallons of mixed solution will kill all weeds on 200 square yards of paths, &c.
POWDER.
 1 tin for 12 galls. solution } Free Tins
 19 " 25 " " " and
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LIQUID. 1-50.
 1/2 gallon - 2 - dram free
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PROTECT YOUR PLANTS From Slugs, Crabs, Caterpillars, Ants, Wireworm, and the Domestic Cat—

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 Down every growth for 12 months. No hoeing or weeding.
PATHS ALWAYS BRIGHT AND CLEAN.
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DICKSON'S "HAWKERS" BELLS. Alex. Dickson & Sons, Ltd. A very neat little descriptive catalogue conveniently arranged, clearly printed, and very handy for reference. There are numerous illustrations scattered throughout the text. It contains also lists of hardy herbaceous plants, violets, strawberries, and sweet peas for autumn sowing.

BELLS, &c. (Little & Ballantyne, Carlisle). A large-page descriptive catalogue, well illustrated, and with useful cultural notes. Type clear, "get up" pleasing.

WILBIE'S BELLS (Wordsley, Steubridge).—This is a very handsome catalogue. The pages are large, admitting of strikingly bold illustrations, such as *Gladioli* on page 51. If, according to Lord Rosbery, the literature of nurserymen's catalogues is "arid," surely even his lordship would admit the abundance of refreshing oases of illustration in such a production as this.

Notes.

At a wild-flower competition held at Millisle, Co. Down on Tuesday, Aug. 24, about 70 varieties were collected by ten children during a three hours' ramble. The following is a list of some of them:—Restiariow, yarrow, meadow sweet, woodloose-strife, crane's bill, purple veitch, calamint, feverfew, eye-bright, vervain, bramble, hawkweed, bugle, cinquefoil, tormentil, meadow vetching, knot grass, persicaria, wild carrot, convolvulus, nipplewort, dog's mercury, burdock, bed-straw, lady's small, heartsease, white oxeye.—WALTER SMYTH, Hollywood, Co. Down.

We have received the annual report of the Perpetual Flowering Carnation Society, together with the schedule of prizes to be competed for at the society's seventh show in London on the 8th of December next. The hon. sec. is Mr. Hayward Mathias, Lucerne, Stubbington, Fareham, Hants.

Answers to Correspondents.

ROSES FOR A SOUTH WALL ("Arden").—The six best roses for your south wall are:—(1) Madame Jules Graveraux; (2) Madam Wagram, Comtesse de Turenne; (3) Climbing Kaiserin A. Victoria; (4) Climbing Mrs. W. J. Grant; (5) Climbing Caroline Testout; (6) Climbing Perle de Jardins. A wall, however, of only five feet would do very well with the stronger Teas on it, planted through or between the above climbers, therefore, try both Maman and White Cochet. Souv. de P. Notting, Anna Olivier, Drusehki, and Ards Pillar will both do well; but the heat will make them and Mrs. Grant open rather quickly. O'D. B.

NAME OF FLOWER ("Reellen"). The common name is Venus's Navel-wort, and the scientific *Omphalodes linifolia*. It is a native of Europe.

[Other Correspondents have been answered by post.]

An Imprisoned Geranium.

THE following lines were suggested on seeing a fading geranium through the bars of a sunless window in one of the suburbs of Carlow town:—

Carry me home—to my dear home—
Thousands of miles away,
Or dancing foam where wild waves roam
The endless mystic sea.

Parched with thirst, smothered with dust,
Wrapped in a frigid gloom,
For e'er to dwell in my prison cell,
A dreary living tomb.

To that fair land sublimely grand,
Where summer's ever bright;
The sun above with beams of love,
Sends down a flood of light.

The banquet hall, for one and all,
Is full the live-long night,
To sip divine of dewy wine
Like cry-stals pure and bright.

The lovely sheen of emerald green
That I would proudly wear
Would always shine like diamonds fine,
So beautiful and rare.

The balmy breeze thro' citron trees
Is watted far and nigh,
The song-birds sing on angel wing
Like music from on high.

My day-dreams bright from morn to night
Are fixed on that fair shore,
Ah! could I reach its Eden beach
I'd droop or flag no more.

My sisters grand, in that fair land,
Have grown so big and gay,
An exile here, in bondage drear
I pine the years away.

From that sweet shore to part no more
I ever fondly sigh,
To my own dear home o'er ocean's foam
Oh bring me! ere I die.

PATRICK McDONNELL.

Castletown, Carlow.

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FIG. 2

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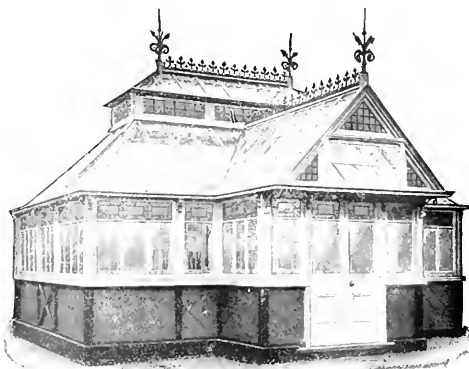
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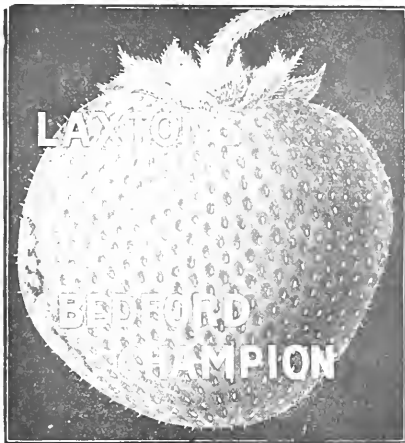
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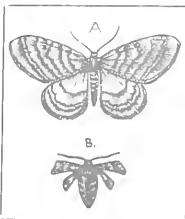
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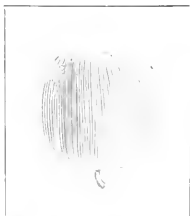
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HORNE'S FRUIT TREE DRESSING has stood the test for 20 years as the best remedy for capturing the Winter Moths. Thousands of pounds' worth of fruit have been saved by its use that would otherwise have been lost if left to the ravages of the caterpillar pest. We are offering the same sort as we use for ourselves, and have succeeded in obtaining a mixture that is harmless to the trees and effectual in killing; thus making it impossible for the Female Winter Moths to cross the band, which should be put on the trees six or eight inches wide, with a sixpenny paint brush, as thickly as it will lay on, early in October. They do not come out of the ground at one time, we have noticed them ascend as early as the first week in October and as late as the middle of December. The Female Winter Moth, having only abortive wings, is obliged to climb the tree, and in trying to cross the band sticks fast; the males not finding them in the branches join company with them where they are, and consequently share the same fate. We have counted as many as 30 and 40 on one tree. They have the reputation of laying 200 eggs each.

We would mention one Fruit Grower in Twydale, near Gillingham, who tried it by dressing every other row of Manx Codlin. The first thing that struck the visitor was, every alternate row had leaves while the others were nearly as bare as they are on Christmas Day. These trees are half-standards about 20 years old, and have not had a crop for years; every season the leaves have been devoured by the caterpillar pest. We would remind our readers where they have trees that have suffered like the above, it will take them a year or two to recover; the first step is to keep the trees free from caterpillars, and the easiest way is to catch the moth as it ascends to lay its eggs; then you may hope for healthy leaves and bloom, and fruit to follow. If there were no moths there would soon be an end to the caterpillars.

These little insects are very persevering, they will climb over the bodies of the dead and even lay their eggs on the band to lighten themselves in trying to gain their point. We find it pays to send a woman round about every three weeks or a month and freshen the band up, thus destroying the eggs and making it impossible for one to escape.

We dressed 75 acres of our own last autumn, and we find the band should have attention up to Christmas; it is only by perseverance that this pest can be checked.

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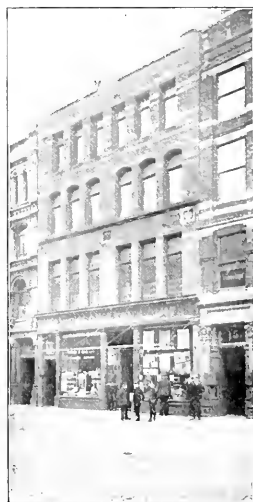
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—BALLSBRIDGE—

Wednesday, October 20, and Thursday, October, 21, 1909



NON-MEMBERS—Entry fees for all classes, 1s. for each entry up to five; 5s. covering all entries exceeding that number. Special Cottagers' class for vegetables, entries free. Fruit and Cottagers' vegetables, properly packed and received at the Royal Dublin Society's premises the day before the opening day of the Show, will be staged for those who cannot attend personally. Schedules and all particulars on application to the Secretary, R. H. S. Offices, 5 MOLESWORTH ST., DUBLIN

The Planting Time.

IT costs as much to plant and grow indifferent trees as good ones, and yet every season one sees people planting trees of poor quality from a doubtful source, perhaps also paying heavy carriage upon trees from a long distance which have been a considerable time out of the ground. Many of this journal's readers will presently be extending or planting new orchards, replenishing garden fruits, or planting ornamental shrubs, roses, &c. It is all-important with trees which are to be of many years standing that at the outset good specimens be secured, true to name, and from a reliable nursery. The attention of planters is directed to one of our home nursery firms, Messrs. Watson & Sons, Clontarf Nurseries, and 18 Nassau Street, Dublin. They have a large stock of trees of all kinds in clean and healthy condition, which planters who find time to call at the nurseries (fifteen minutes' tram drive from Nelson's Pillar) may see for themselves, and those who cannot conveniently call should note that the Messrs. Watson attend personally to their clients' instructions by post or telephone.

A visit to Messrs. Watson's Nurseries will convince intending planters that there is no need to go elsewhere for roses, fruit trees, or indeed most nursery stock which formerly was not to be obtained satisfactorily in Ireland. Long-distance carriage is saved to Messrs. Watson's patrons, and what is perhaps more important with goods of a perishable nature, owing to their nurseries being situated in the metropolis, the most direct routes are available to the provinces, with the result that the trees arrive in perfect condition, and are replanted before they have the time to suffer. Descriptive catalogues may be had free by post.

Answers to Correspondents—continued

GRAFTING DAHLIAS ("Gardener").—Yes, it can be done, and is indeed frequently done, we believe, when plants are wanted for pot culture. A large tuber of the previous year is selected, and all its buds removed by slicing off the tops. A V-shaped slit is then made in the side of the tuber, and having selected your shoot, its base is cut into a wedge-shape to fit into the V-slit already made in the tuber. When the scion is inserted it is bound to the stock with raphia and covered with putty. The plants are put in a hot frame and kept well shaded until union is effected. Care must be taken during the early stages of growth not to let the plants get too much direct sunlight. Grafted plants, as a rule, do not produce tubers, so they are practically annuals.

MULCHING STRAWBERRY BEDS ("Fruit Grower").—Certainly. After the autumnal cultivation a mulch of straw manure should be applied. From certain experiments carried on for a series of five years it was found that mulching in early winter gave every time a very considerable increase of yield over the unmulched plots. As a proof that the increase was the result of the strawy soil covering rather than the manurial matter washed into the soil, it was found, first, that straw alone gave as good returns as strawy manure, and, second, that in another plot that received artificial fertilisers, but no mulch, the yield was no better than on the untreated control plot.

£600 PER ACRE is the gross return from an English plot of land worked under the French method of intensive culture, by the use of Cloches or Bell-glasses

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A most valuable Winter Wash for destroying Mosses, Lichens, Fungi, and their Spores. Extensively used in the Largest Orchards throughout the Country upon Fruit Trees and Bush Fruits, also upon Forest Trees with most satisfactory results.

Causes all loose, rough, or decayed bark to fall off, thereby exposing the favorite quarters of the insects, upon which it has a deadly effect whether in the active or dormant condition.

Improves the Health, Growth and Appearance of the Trees by destroying Insect Pests.

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ITS ADVANTAGES ARE—

Certain death to all Insect Pests.
No possible injury to the most delicate Plant, Flower or Foliage.
It is by far the cheapest Insecticide known. One pint makes ten
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SPIDER, Mealy bug, and Scale can be thoroughly eradicated by
using “NIQUAS,” about double the strength required for Fly.

It is most successfully used by Orange and
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PRICES—Pint, 1-; Quart, 19; Half-Gallon, 3-; Gallon, 5-;
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interesting vegetation under glass is now manufactured in a more
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packed with each cone, has only to be lighted, and placed on the
ground in the centre of the Cone Frame, to produce immediate
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Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet,
price 11- each. Cone No. 2, for a well-secured house of cubic 1,000
to 2,000 feet, price 8d. each. Cone No. 1, Carbon, for frames
cubic 100 feet, price 6d. each. Full directions accompany each Cone.

Ask for a List of Testimonials, of which some hundreds have been
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Be sure to ask for
SUMMER CLOUD
SHADING

And see that you get it!

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in Packets containing 3 ozs., for 100 feet of glass, 1-; 24 ozs., 2 6;
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PROPAGATION OF BLACK CURRANTS ("A. B.")—The process is very simple. Select clean, healthy shoots

with short joints and well-ripened wood. As the preparation for insertion is different in black currants and red we give an illustration to make the matter clear. The figs. C and D represent the black currant shoots, which are prepared by (1) removing (close by but above a bud) the unripened tip (line *a* in C) and (2) by making a clean cut close to, but below, a bud at the base of a shoot as indicated in the figure. The preparation of red and white currant cuttings up to this point is exactly the same. But in black currants all the buds are left on the shoot, while in red and white currants all the lower buds are removed, leaving only the upper

four or five. When prepared the cuttings are inserted in rows in ordinary soil, 18 inches apart, with 4 to 6 inches between the cuttings. You can begin the

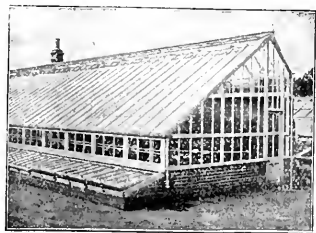
work now as soon as the ripening of the wood is completed, or wait until November if more convenient.

Royal Horticultural Society of Ireland.

"THE best laid schemes of mice and men gang aft agley," said the secretary (in a whisper) on the 10th ult., the regular meeting day of the council, as with the offices swept and garnished with a nice lot of cactus dahlias sent in by Miss Ross of Dalkey, and all his variorum, he watched and waited all in vain, and failed to get a quorum. At a special council meeting on the 16th ult., at which Messrs. R. T. Harris, W. F. Gunn, J. Wylie-Henderson, J. L. McKellar, H. P. Goodbody, Capt. Riall, F. W. Moore, Jas. McDonough, and Lady Albreda Bourke attended, with Mr. Goodbody presiding, preliminary arrangements were made for the Winter Show, to be held at Ballsbridge on the 20th and 21st inst. A whole bevy of judges were appointed for the various sections; each being an expert with several legal luminaries for the fruit verdicts, and some, it may be added, have been invited from afar off, all in the interests of King Apple who, presumably, reigns over the Irish fruit growing industry. The head and front of this particular show, in fact, is directly or indirectly in the interests of Irish grown fruit, to which end the Department of Agriculture and the Royal Dublin Society have co-operated with the Royal Horticultural Society of Ireland by presenting prizes in special sections, all of which are set forth in the schedule. To smooth the way for country exhibitors, the council have not only cut entry fees for non-members to 1s. for each entry up to five—5s. covering all entries from five up to five hundred, but have ordered arrangements to be made for the staging of such exhibits of those who cannot attend personally, such exhibits being duly entered a week previously, and reaching Ballsbridge the day before the show. Prospective exhibitors will bear in mind that entries cannot be received after the morning of the 14th inst., and it will much facilitate matters if sent in to 5 Molesworth Street a day or two before that, as the council anticipate

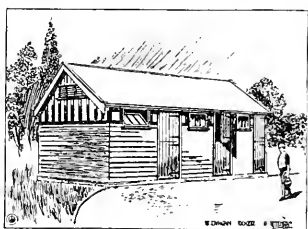


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Portable Buildings for every
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NICOTICIDE

(FUMIGANT.)

Half Gallon Tin contains sufficient for 300 cubic ft. each	60	0
No. 1 size Tin—4 pint	15	0
No. 2 size Tin—4 pint	7	6
No. 3 size Bot. 6 oz	4	6
No. 4 size Bot. 4 oz	3	0
No. 4 1/2 size Bot. 3 oz	1	0
No. 5 size Bot.—2 oz	0	10

FUMIGATORS.

1s. each, for 5000 cubic feet.

NICOTICIDE PLANT SPRAY.

(Use 1 part to 40 parts water for Green-

1 pint, 1s. 2d.	1/2 pint, 2s.
Quart, 3s. 6d.	1 gal., 5s.
Gallon, 10s.	Carriage paid.



GOW'S LAWN SAND

DAISY ERADICATOR.

25 lbs. to dress 100 square yards, 7s. 6d. ;

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1 gal., to make 81 gals. in sol. 2/6.

No. 1 Tin, 2/6, to make 20 gals.

5 " " 2/6 " " " " " " " "

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'EUREKA' WEED KILLER.

SAVES WEARY WEEDING.

50 gallons of mixed solution will kill all weeds on 200 square yards of paths, &c.

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1/2 tin for 12 gals. solution	Free Tins
1 1/2 " " " "	and
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1/2 gallon	2 -	drum free
1 "	3 6	" 5d extra
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FRUIT TREES, ROSE TREES, AND GARNATIONS are properly packed free of cost and properly delivered, carriage paid, to Cork, Dublin, Belfast, or Waterford.

Vast quantities of strong, healthy, fibrous-rooted Apples, on the broad-leaved Paradise, Pear, Peach, Grape Vines, and Strawberry Plants of superior quality, similar to those which have given so much satisfaction in various parts of Ireland for many years past.

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"Your Fruit Trees have been eminently satisfactory—not one died. I hope to get more from you this Autumn."

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Kills Greenfly, Psylla, Scale Insects, and Young Caterpillars.

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Destroys underground pests, including WIRE-WORMS and Grubs of all kinds, Slugs, Ants, Millipedes, &c.

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A Concentrated Weed-Killer

Destroys Grass and Weeds on Garden Paths.

Full particulars & prices from the Sole Mfrs.
Wm. Cooper & Nephews, Berkhamsted.

Weeds Killed: Grass Invigorated by

"CLIMAX" LAWN SAND

When applied during dry weather daisies and other weeds are destroyed and a fine growth of grass quickly covers the places occupied by disfiguring weeds. Thousands of weedy and poor Lawns have been transformed by Climax Lawn Sand. Why not yours? Try it now. 7lbs. 2s., 14lbs. 3s. 6d., 28lbs. 6s., 56lbs. 11s., 112lbs. 20s. Carriage paid. Sample Tin 1s. 3d., post free.



PROTECT YOUR PLANTS: From Slugs, Grubs, Caterpillars, Ants, Wireworm, and the Domestic Cat—

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A non-poisonous Manure, deadly to every creeping thing, yet does not injure the foliage of plants. Testimonials on application. 7lbs. 2s., 14lbs. 3s. 6d., 28lbs. 6s. Carriage paid. Sample Tin 1s. 3d., post free.



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By "CLIMAX" WEED KILLER

ONE APPLICATION KEEPS Down every growth for 12 months. No hoeing or weedy weeding. **PATHS ALWAYS BRIGHT AND CLEAN.** No. 1 Tin to dress 100 square yards, 2s. No. 2 Tins 3s. 6d. Post free. No. 2 Tin to dress 400 square yds. 6s. 6d. 2 Tins 12s. 6d. Carriage paid.



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a large number for which special staging will have to be provided. It will be noticed (see schedule) that in class 02, the new cottagers' class for vegetables, the prizes for which are presented by Sir J. W. Mackey, Ltd., the first prize winner will also receive the society's bronze medal, and for this class no entry fee is charged, and here, as with fruit, exhibitors who cannot attend personally can have their produce staged for them. The chief thing is to be in time, for, unlike a rose show or a sweet pea parade, the cutting, plucking, or digging need not be delayed till the eleventh hour; but careful packing to prevent wobbling, and after wails of woe, is a virtue. Fruit amateurs might also note that beeswax, nugget polish, shinio, and other lustres for fruit are not only not recommended by the judges, but any polishing of this or any other kind is considered a demerit.

SHOWS.

Trim Horticultural Society.

THE Trim Agricultural and Horticultural Society held its annual show on Tuesday, August 18, in the picturesque grounds of King John's Castle.

The weather for the preceding fortnight had been exceptionally fine, and the exhibits, especially in the flower and vegetable sections, showed a high standard of excellence, many classes being much better than in previous years; the number of entries (nearly 800)

marking a great advance, though it is to be regretted that—as is the case in so many of our country shows—at the last moment some exhibitors fail to bring their exhibits, and so leave unsightly blanks in the staging.

Mrs. D'Arcy Thompson (gardener, Mr. Birney) was successful in gaining Messrs. Dobbie's silver gilt medal, awarded to the winner of the greatest number of prizes for garden produce in the show, and the same exhibitor won Messrs. Alex. Dickson's special prize.

There were three classes for roses, Mrs. D'Arcy Thompson winning with a fine stand of twelve blooms, any varieties; Mrs. Fowler, Rahinstown, second; and Mrs. Leonard, third. For six blooms of Teas or Hybrid Teas the same exhibitors got first and second, Mr. C. W. Parr being third. In the amateurs' section Mr. Parr got first for six blooms; Mrs. Askin second; and Mr. Askin third.

The sweet peas were very conspicuous, the competition for the silver medal of the National Sweet Pea Society being keen in the open class for twelve varieties, the prize eventually going to Mr. C. W. Parr; Mr. R. Reynell, who came up from Westmeath, got second; Mrs. McVeigh, third; and Mrs. Fowler, very highly commended. Mrs. McVeigh won in the open class for six varieties; C. W. Parr, second; Mrs. Fowler, third. In the amateur class for six varieties C. W. Parr got first; Mrs. Askin, second; Mr. Askin, third.

In the open section for twelve dahlias Mrs. D'Arcy Thompson got first; Mrs. Carew, Roristown, second. Twelve blooms of carnations, Mrs. D'Arcy Thompson,

ESTABLISHED 1820

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HOUNSLOW NURSERIES

HOUNSLOW, MIDDLESEX



Fruit Trees a Speciality

Over half-a-million to select from



100,000 One and Two-year Old

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RITCHIE'S SELECTED BULBS

—PLANT NOW—
FOR SPRING FLOWERING

HYACINTHS—Bedding Varieties, named, 1s. 8d. doz. Miniatures for forcing or Bowl cultivation, 1s. 3d. doz. Second Size, named, splendid Bulbs, 2s. 6d. doz. Mammoth Bulbs for Glasses or Pots, 4d. each, 3s. 6d. doz.

TULIPS—In all the most pleasing shades and best varieties, named, Reds, Whites, Yellows, Pinks, and variegated, from 6d. doz., 3s. 10d.

DAFFODILS—Extra Large, Sound Bulbs. Princess Maximus, 6d. doz., 3s. 6d. 100. Emperor, Empress, Golden Spur, 1s. doz., 7s. 100. Mixed Trumpet varieties, 9d. doz., 5s. 100. Fine Mixed, all sections, suitable for naturalising, 3s. 6d. 100, 30s. 1,000.

CROCUS—Large Flowering, named varieties, 2s. 100. Bedding varieties to colour, 1s. 100.

Snowdrops, Anemones, Ranunculus, Iris, &c.

Beautifully Illustrated Catalogue Post Free

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DICKSON'S HAWLMARK BULBS

The pick of Holland. All first size and thoroughly matured. Free from disease. Send your orders early and secure the best Bulbs

The following is merely a selection from our list, and we cordially invite our customers to
COME AND INSPECT OUR STOCK.

BULBS FOR FORCING.—Single White Roman Hyacinths, per doz., 1s. 6d.; per 100, 11s. **Freesia refracta alba**, pure white and fragrant, per doz., 7d. and 10d.; per 100, 4s. and 5s. 6d. **Freesia Leichtlini major**, per doz., 10d.; per 100, 5s. 6d. **Polyanthus Narcissus**, paper white grandiflorus, a great improvement on the old variety, specially selected Bulbs, per doz., 1s.; per 100, 6s. 6d. **Polyanthus Narcissus**, Double Roman, extra large, per doz., 9d.; per 100, 5s.

ANEMONES.—St. Brigid, a most lovely strain, of unexcelled quality, per doz., 10d.; per 100, 6s. **A. Fulgens**, brilliant scarlet, the starry windflower, per doz., 10d.; per 100, 6s. **Double Dutch**, mixed colours, 6d. per doz.; 3s. per 100. **Single Dutch**, mixed, per doz., 4d.; per 100, 2s.

CHIONODOXA ("Glory of the Snow") **C. sardensis**, bright deep blue, a lovely gem. **C. Lucillie**, bright blue with white centre, per doz., 6d.; per 100, 3s. 3d.

CROCUS.—We offer the best and most distinct sorts in this popular Spring flower. **Golden King** and **Silver King**, each, per 100, 3s. **Caroline Chisholm** (white), **Albion** (deep violet blue), **Golden Yellow**, each, per 100, 2s. **Navy Blue** (new), **Skylark** (new), each, per 100, 3s. Mixed, white, blue, striped, or yellow, per 100, 1s. Special prices per 1,000.

HYACINTHS.—We offer 2 sets of 12 Bulbs each, containing, in our opinion, the cream of all the numerous varieties usually offered; they are all of the very highest merit, and suitable for general or exhibition purposes. The "**Royal**" Twelve, price, 6s. The "**Popular**" Twelve, 4s. The 2 collections, carriage free, for 10s. Twelve good varieties, named separately, for 3s. 6d. Bedding Hyacinths in separate colours *to name*; first quality, equal in every way to Bulbs sold by many firms as first size, 2s. 6d. per doz.; 18s. per 100. Mixed Bedding Hyacinths, all colours, per doz., 1s. 8d.; per 100, 12s.

NARCISSUS.—Our stock of these is most extensive, and the Bulbs all extra large and strong. **Victoria**, **Emperor**, **Golden Spur**, per doz., 1s. 2d.; per 100, 8s. **Princeps Maximus**, Forcing size, extra large, per doz., 4s.; per 1,000, 35s. **Sir Watkin**, per doz., 1s.; per 100, 7s. **Barrii Conspicuus**, per doz., 6d.; per 100, 3s. **Double Jonquils**, per doz., 6d.; per 100, 5s. 6d. **Single Jonquils Rugulosus**, per 100, 2s. 6d.

SNOWDROPS.—Giant Single (*Golanthus Elvestii*), immense roots, specially selected, per 100, 3s. 6d.; first size roots, 2s. per 100. **Double Snowdrops**, 4s. per 100.

TULIPS (Single).—Duc Van Thol, scarlet, very early, good for forcing, per doz., 10d.; per 100, 6s. **Artus**, crimson, scarlet, per doz., 9d.; per 100, 5s. 6d. **Princess Marianne**, splendid large white, per doz., 8d.; per 100, 4s. 6d. **Prince of Austria**, rich, soft, orange, per doz., 1s. 3d.; per 100, 9s. **Chrysolora**, pure yellow, per doz., 6d.; per 100, 3s. 6d. **Keizers Kroon**, red and yellow, per doz., 10d.; per 100, 6s. 6d. **Rainbow Mixture**, all colours, mixed by ourselves, per doz., 8d.; per 100, 4s.

TULIPS.—Darwin and May Flowering. A distinct and magnificent range of Tulips now brought to great perfection. Our collections, shown at the leading Shows in England for the past seven years, have in almost all instances received the highest awards. We strongly recommend our customers who have not grown these truly grand flowers to give them a trial this season. Descriptive list will be sent, post free, on application.

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Seedsmen, Nurserymen, and Florists—61 DAWSON ST., DUBLIN

first; Mrs. Fowler, second. Twelve asters, Mrs. D'Arcy Thompson, first; Lord Dunsany, second. Twelve trusses of geraniums, Mrs. Fowler, first; Mrs. D'Arcy Thompson, second. Twelve blooms of begonias (single), Mrs. D'Arcy Thompson, first and second; J. S. Winter, third. Mrs. D'Arcy Thompson also won premier honours in the class for twelve double begonias with a magnificent lot, J. S. Winter being second. For twelve spikes of gladioli, Mrs. McVeagh, Drowestown (gardener, Mr. Casserly), got first prize; Mrs. Carew, second; Lord Dunsany, third. There was a large entry for twelve herbaceous perennials, first prize going to Mr. C. W. Parr's well staged exhibit; J. S. Winter, second; Mrs. Fowler, third. Mr. Parr also won with six varieties in the amateur section.

J. S. Winter got first for an effective collection of table plants; Lord Langford, second; Lord Dunsany, third. Mr. Winter also got first prizes for three gloxinias, three begonias, and three ferns.

Lord Dunsany and Mrs. D'Arcy Thompson were equal for a collection of twelve varieties of vegetables, while the former exhibitor was awarded first for six kinds of fruit. Mrs. D'Arcy Thompson won in the classes for cucumbers, tomatoes, cabbage, and vegetable marrows.

There was a large increase of entries in the amateur section, the principal prize winners being Mrs. Askin, Miss O'Hagan, Mrs. Coghill, Mrs. Law, Mrs. Tier, J. C. Hanbury, Thos. Askin, Dr. O'Reilly, C. W. Parr, Christopher Morgan, and S. Allen. Mr. Hugh Dickson's special prize for the most successful exhibitor of cut flowers in this section was won by C. W. Parr.

The prize for six sections of honey was won by C. W. Parr; C. H. Murphy, second; and for one bottle of fruit, Miss Murray, Triermore, first.

The home industries and poultry sections were also well filled.

The judges in the horticultural sections were Canon Hayes and Wm. Burleigh, Esq., Bray.

Catalogues.

WATSON'S CARNATIONS.—Everyone loves carnations, and everyone who can ought to grow them. We give in the present number of *IRISH GARDENING* an article written specially for the benefit of the amateur gardener who is wishful to grow these charming flowers, and here is a catalogue which gives descriptive lists of all the popular sorts, or such as an amateur gardener wants. The list is illustrated, and one of the illustrations from the booklet is used in another part of the present issue.

NEW CARNATIONS.—Mr. Hayward Mathias, the carnation specialist, sends us a special list of new carnations raised by him at Medstead (Hants.). As Mr. Mathias's name is so frequently appearing in the prize lists of shows for different kinds of carnations, we have no doubt as to the high quality of his "creations."

LISSADELL DAFFODILS is the name of a particularly neat little book sent out by this well-known Sligo nursery. The arrangement is good, the printing clear, and the illustrations beautifully shown on plate paper. We are pleased to note that attention is being paid to hybridising at Lissadell. A large mass of information has been accumulated as to (among other things) the seed-producing and pollinating power of many varieties of daffodils, and the manager offers information and advice on these matters to such of his customers as are interested in daffodil breeding.

CATALOGUE OF BULBS AND ROOTS (Jones, F.R.H.S., Kilkenny).—This is a small but attractive list which opens with the details of a "knock-out" collection of hardy bulbs, and then proceeds to give the usual lists of bulbs and roots for autumn and spring planting. To those wishing to grow bulbs in bowls or window boxes, Mr. Jones offers advice to any enquirer. A page on sweet peas ends the catalogue. The booklet was printed in Wexford, and is put up in a brilliant green wrapper.

Ulster Horticultural Society's

Chrysanthemum Show

IN BELFAST
9th and 10th November

Entries free, and close
Monday, 1st November

Schedules can be had from J. MACBRIDE, Secretary, 1 Adelaide Street, BELFAST



WINDOW GLASS.

Polished Plate for Shop Windows.
Horticultural Glass at Lowest Rates.

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Strongly Recommended for the Destruction of Weeds, &c.

Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon; 10 gallons, 1s. 3d. per gallon; Original 40-gallon casks, 1s. per gallon.

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Miscellaneous Section

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WILL NOW BE OCCUPIED WITH THE

CLEANSING OF FRUIT TREES & PLANTS

THE dormant season is the time to wage war against Mealy Bug, Scale, &c. These pests can speedily be got rid of under glass by the use of "XL-ALL" NICOTINE LIQUID INSECTICIDE. For preparing Fruit Trees and Bushes out of doors for a clean, healthy start next spring, nothing is so effectual as a good spraying, after the leaves have fallen, with RICHARDS' "XL-ALL" WINTER WASH, which will destroy American Blight, other insects, moss, &c., and make the bark clean and healthy. Can be obtained everywhere from the Horticultural Trade.

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DESIGNING, Laying out and Planting of New and Renovating of Old Gardens. The Making and Planting of Rock Gardens, Rockeries, and Pergolas a Speciality. Plans Prepared. Estimates Free.

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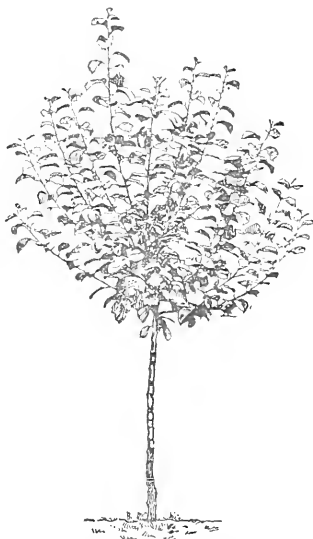
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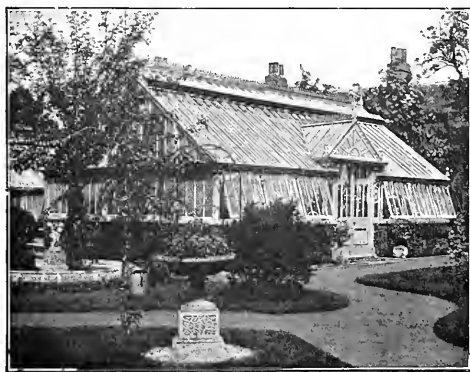
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AT REASONABLE PRICES

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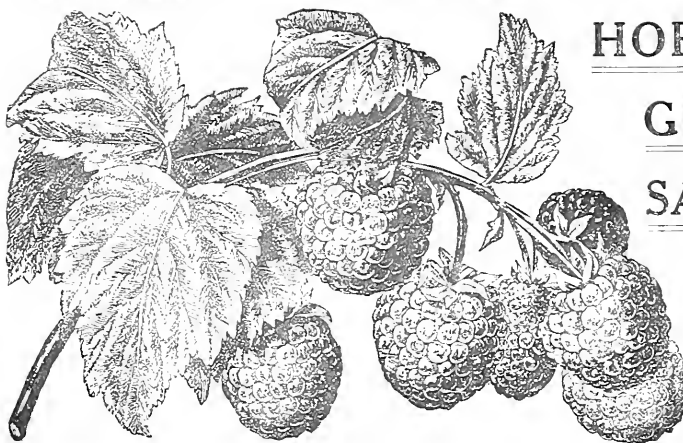
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200,000 FRUIT TREES AND BUSHES

— of all kinds, including several thousands —

STANDARD APPLES, PEARS AND PLUMS

10,000 Maiden Apples on English Paradise

The following popular kinds are included: James Grieve, Ben's Red, Charles Ross, Cox's Orange, Allington Pippin, Hector Macdonald, Jersey Beauty, Bramley Seedling, Lord Derby, Worcester Pearmain, Ecklinville Seedling, Newton Wonder, Norfolk Beauty, Blenheim Orange, Warner's King, Edward VII., Rival, Quarrenden, L. ne's Prince Albert.

Also a very fine lot of 30,000 Pyramid Apples, 2 and 3 year, on English Paradise

Including Worcester Pearmain, Cox's Orange Pippin, James Grieve, Allington Pippin, Bramley Seedling, Warner's King, Houblon, Charles Ross, Peasegood Nonsuch, Beauty of Bath, Lane's Prince Albert, and many others.

About 50,000 Half-standard Apples on Crab Stock, 2 and 3 year

Worcester Pearmain, Cox's Orange Pippin, Bramley Seedling, Newton Wonder, Allington Pippin, Lord Derby, Lane's Prince Albert, Blenheim Orange, James Grieve, and many others.

Standard Apples

The following popular kinds are included: Cox's Orange Pippin, Worcester Pearmain, James Grieve, Ecklinville, Allington Pippin, Blenheim Orange, Devonshire Quarrenden, Bramley Seedling.

About 10,000 Pears and Plums; about 10,000 Black Currants, 10,000 Gooseberries, 5,000 Red Currants, 30,000 Raspberries, several thousand Cabbage and Strawberry Plants, several tons Scotch Seed Potatoes, Loganberry Plants from layers.

FREE LUNCHEON AT 11 .∴ SALE AT 11.30

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Fourteen days will be allowed to clear and settle accounts. Messrs. HORNE & SONS will lift and cart all lots and put them on rail after the Sale free of charge. Catalogues free of Messrs. HORNE & SONS, Cliffe, near Rochester; and of the Auctioneers, 67 & 68 Cheapside, London, E.C.

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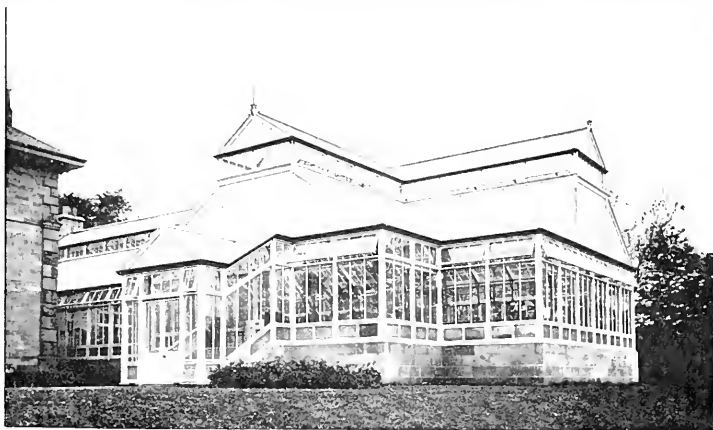


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(Signed),

FLOWER & McDONALD
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Irish Salt Manufacturers, Coal,
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Yours truly,

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AT REASONABLE PRICES

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APPLES, PEARS, PLUMS

AND

Our Stock comprises all the finest varieties and are ABSOLUTELY CLEAN and in Fruit-bearing condition.

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The Planting Time.

IT costs as much to plant and grow indifferent trees as good ones, and yet every season one sees people planting trees of poor quality from a doubtful source, perhaps also paying heavy carriage upon trees from a long distance which have been a considerable time out of the ground. Many of this journal's readers will presently be extending or planting new orchards, replenishing garden fruits, or planting ornamental shrubs, roses, &c. It is all-important with trees which are to be of many years standing that at the outset good specimens be secured, true to name, and from a reliable nursery. The attention of planters is directed to one of our home nursery firms, Messrs. Watson & Sons, Clontarf Nurseries, and 18 Nassau Street, Dublin. They have a large stock of trees of all kinds in clean and healthy condition, which planters who find time to call at the nurseries (fifteen minutes' tram drive from Nelson's Pillar) may see for themselves, and those who cannot conveniently call should note that the Messrs. Watson attend personally to their clients' instructions by post or telephone.

A visit to Messrs. Watson's Nurseries will convince intending planters that there is no need to go elsewhere for roses, fruit trees, or indeed most nursery stock which formerly was not to be obtained satisfactorily in Ireland. Long-distance carriage is saved to Messrs. Watson's patrons, and what is perhaps more important with goods of a perishable nature, owing to their nurseries being situated in the metropolis, the most direct routes are available to the provinces, with the result that the trees arrive in perfect condition, and are replanted before they have the time to suffer. Descriptive catalogues may be had free by post.

Shows.

Piltown and Suir Valley Fruit Show.

THE second annual show of the Piltown and Suir Valley Fruit Grower's Association was held last month in the City Hall, and was a distinct success. The excellent quality of the fruit in exhibition (and there were 534 entries) bore unmistakable evidence as to the suitability of the Piltown and Suir Valley districts to produce apples of the highest quality. The report of the judges (Messrs. D. Crombie, C. Longley, and E. Sutton) in the apple section (the most extensive by far in the show) was as follows:—"The fruit of all classes were exceptionally good and were well coloured. Small holders' classes being a most creditable exhibit all round. In the open classes for fruit packed for market the packing was fair, but would require a little more fastening of the fruit. Taken all round, a remarkably good show." There were 30 classes for apples, and 7 classes for jams, jellies, fruit pies, &c. The decoration of the tables was entrusted to Messrs. Fennessy & Sons, of the Waterford Nurseries, who had also an attractive trade exhibit of fruit and flowers. Mr. S. A. Jones, of the Gowran Nurseries, had a well-filled stand of apples and pears, staging as many as 60 varieties of the former fruit. The arrangements of the show were in the capable hands of Mr. A. G. Bower, J.P., of Silverspring, the Hon. Secretary of the Association.

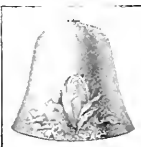
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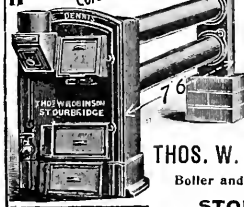
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to twelve gallons for Thrip, Black and Green Fly, &c., whilst RED
SPIDER, Mealy Bug, and Scale can be thoroughly eradicated by
using “NIQUAS,” about double the strength required for Fly.

*It is most successfully used by Orange and
other Fruit Growers in the Colonies, &c.*
PRICES—Pint, 1; Quart, 1.9; Half-Gallon, 3; Gallon, 5; ;
Kegs, each Five Gallons, 22 6; Ten Gallons, 42 6.

LETHORION

Registered Trade Mark

IMPROVED METAL



**VAPOUR CONE
FUMIGATOR . .**

At Greatly Reduced Prices.

INTRODUCED 1855.

This well-known invention for the entire eradication of all pests
intesting vegetation under glass is now manufactured in a more
simple and reliable form. The small candle, which will be found
packed with each cone, has only to be lighted, and placed on the
ground in the centre of the Cone Frame, to produce immediate
results. Nothing on the market can equal it for efficacy and
cheapness.

Cone No. 3, for a well-secured house of cubic 2,000 to 2,500 feet,
price 1- each. Cone No. 2, for a well-secured house of cubic 1,000
to 1,200 feet, price 8d. each. Cone No. 1, Carbon, for frames
cubic 100 feet, price 6d. each. Full directions accompany each Cone.

Ask for a List of Testimonials, of which some hundreds have been
received from the leading gardeners in the Kingdom.

Registered No. 14629.

FOR

**All Glass Structures
THAT REQUIRE
OUTSIDE SHADING**

The only Genuine, Original, and
Improved Article. It has been in
general use for **over 30 years**

Be sure to ask for
**SUMMER CLOUD
SHADING**

And see that you get it!

Sold by all Dealers in Horticultural
Sundries throughout the Kingdom,
in Packets containing 8 ozs., for 100 feet of glass, 1-; 24 ozs., 2 6;
and in Bags of 7 lbs., 10 6; 14 lbs., 20 -.

MANUFACTURED BY

CORRY & CO., Ltd.
13 and 15 Finsbury St., LONDON, E.C

Hints on Fruit-growing.

N.B.—The following is the copy of a circular prepared by Mr. E. H. Bowers, County Instructor in Horticulture, for circulation among intending fruit growers in the county of Roscommon. We reproduce it in the hope that it may be useful to a wider circle of planters.

WHAT TO GROW.—THE apple is probably the most satisfactory fruit for the farmer or cottager to grow; it occupies but a small space, and gives an early return. The majority of the varieties are quite hardy and will succeed in almost any kind of soil, unless it is of a very wet and cold nature.

Pears are not recommended to be grown except where the trees can be planted against a wall in a warm garden; they usually take several years before bearing fruit.

Plums are worth planting, but fruit will not be produced for a few years, yet they are profitable to grow once the trees reach bearing size.

Damsons are similar to plums, and are usually planted to form a shelter round gardens and orchards; they require but little pruning, and grow into profitable trees after some time.

Gooseberries and currants (black) are useful to grow, and give good crops after a year or two; they are recommended to be grown for home use only.

Strawberries should be grown in every garden except where poultry are allowed to enter.

VARIETIES RECOMMENDED: *Apples (Cooking).*—The following are quite hardy, reliable, and the trees bear fruit while in a young state, with the exception of "Bramley's Seedling," which usually takes a few years longer;—Early Victoria, fit for use August and September; Golden Spire (September and October); Grenadier (September and October); Bismarck (October to January); Stirling Castle (October and November); Newton Wonder (December to May); Lord Derby (October to January); Bramley's Seedling (December to April); Lane's Prince Albert (December to April).

Early or Dessert Varieties.—Beauty of Bath (September); Worcester Pearmain (September and October); King of the Pippins (October and November); Allington Pippin (October to January); James Grieve (October); Irish Peach (August and September). The above are quite hardy and reliable.

Pears.—William's Bon Cretien matures September; Doyenne du Commerce (November and December); Beurre d'Étampes (September and October); Doyenne d'Été (July and August).

Strawberries.—Royal Sovereign (the best strawberry) and Leader.

Damsons.—Farleigh Prolific and Bradley's King.

Plums.—Victoria (the best plum); Heron, Early Prolific, and Pershore.

Gooseberries.—Red—William's Industry, Crown Bob, and Lancashire Lad. *Green and Yellow* Keepsake, Early Amber, Laveller and Yellow Lyon. *White*—Whitesmith.

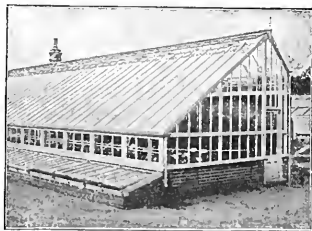
Currants. *Black*—Boskoop Giant, Black Naples; *Red*—Red Dutch, Comet (largest); *White*—White Dutch.

HOW TO PLANT.—When you get the trees, unpack and plant them at once. If you cannot do so, put them in a slanting position in a shallow trench in a sheltered corner, and cover the roots well with soil until you are able to plant them.

Do not leave the roots of young trees exposed to cold, drying, or frosty winds; keep them covered up, and only take out one at a time when planting.

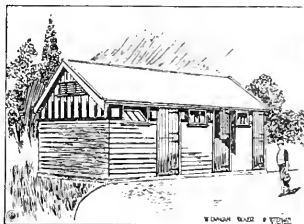
For apples, pears, plums and damsons make a hole about 8 or 10 inches deep and about 2 feet wide at the top and 2 feet 3 inches at the bottom. Having thrown up the soil, break up the sub-soil at the bottom, then return some of the finer soil so as to form a little mound in the centre of the hole; then upon this place the tree. The roots will generally be found to be growing from several parts of the stem. Spread out the lowest roots carefully on the mound, and scatter some fine soil over them; then spread out the roots next above these and add more soil; then those above them, and so on. Give the tree a gentle shake now and then

WM. DUNCAN TUCKER & SONS, Ltd. Telegrams— "Anti-Drip, London"



Conservatories ∴ Ranges
Vineries, Ferneries, Stoves,
Pits, Plant-houses & Green-
houses of all descriptions.
Portable Buildings for every
purpose

Write for Catalogue.
Kindly mention this paper.



27 CANNON STREET, LONDON, E.C.

Works—Tottenham

NICOTICIDE

(FUMIGANT).

	cubic ft.	each
Half Gallon Tin contains sufficient for	160,000	6 0 0
No. 1 size Tin—1 pint	40,000	15 7 6
No. 2 size Tin—1 pint	20,000	7 4 0
No. 3 size Bot.—6 oz.	12,000	4 0 8
No. 4 size Bot.—4 oz.	8,000	3 0 8
No. 4 1/2 size Bot.—2 oz.	4,000	1 0 10
No. 5 size Bot.—1 oz.	2,000	0 10

FUMIGATORS.

1s. each, for 500 cubic feet.
NICOTICIDE PLANT SPRAY.
 (Use 1 part to 40 parts water for Green-
 fly, &c.).

1/2-pint, 18. 2d. Pint, 2s.
 Quart, 38. 6d. 1-gal., 58.
 Gallon, 10s. Carriage paid.



GOW'S LAWN SAND DAISY ERADICATOR.

28 lbs., to dress 100 square yards, 7s. 6d.;
 1 cwt. keg, 21s. Carriage paid.

GOW'S SLUG AND WIREWORM DESTROYER.
 Being a Combined Fertilizer.

**TOBACCO POWDER; QUASSIA EXTRACT;
 AND LAWN SAND**

Sold in 6d., 1s., and 2s. 6d. Decorated Tins.

GOW'S LIQUID WEED KILLER POWDER WEED KILLER

1 gal., to make 21 gals., in sol., 3s. No. 1 Tin, 2, to make 25 gals.
 2 2s. 2d. No. 2 Tin, 6 6d. 10s. 6d.
 3 1s. 6d. 16s. 6d. Tins free. Carriage paid.

HUNTER & GOW, 46 Thomas St., Liverpool.

'EUREKA' WEED KILLER.

SAVES WEARY WEEDING.

50 gallons of mixed solution will kill all
 weeds on 200 square yards of paths, &c.



POWDER.
 1/2 tin for 12 gals. solution Free Tins
 19 " 25 " " " "
 6 " 100 " " " Cases

LIQUID. 1-50.
 1/2 gallon - 2 - drum free
 1 " - 3 6 " " 9d. extra
 2 " - 6 6 " " 1 6 "
 5 " - 14 - " 2 6 "
 10 " - 25 6 - cask 5 - "

'EUREKATINE' The successful fumigant.

'EUREKA' Insecticide, Lawn Sand, Helioberbe Powder, Bordeaux
 Mixture, Worm Killer, Hayward's Summer Shade, &c.

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Full list with booklet, "Chemistry in Garden and Greenhouse," sent
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 Most Economical!**

Sales of Best English Sole Leather
 (Waterproofed) with Motor Tyre
 Rubber Studs or Solid Rubber.
 Fig. 1 can be refitted repeatedly,
 equal to New Boots. Rubber Soles
 strongly recommended



FIG. 1

Silver Medal—Royal Horticultural Society.

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The Field says: "As good as anything that
 could be devised."

Mr. TROIP (Head Gardener to H.M.
 THE KING, Balmoral Castle) writes:
 "The boots supplied two years ago are as
 good as ever."

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FIG. 2

V2 FLUID

For Summer Spraying

Kills Greenfly, Psylla, Scale Insects, and
 Young Caterpillars.

1 Gallon makes 100 Gallons of Spray Mixture.

APTERITE

The Soil Fumigant

Destroys underground pests, including **WIRE-
 WORMS** and Grubs of all kinds, Slugs, Ants,
 Millipedes, &c.

WEEDICIDE

A Concentrated Weed-Killer

Destroys Grass and Weeds on Garden Paths.

Full particulars & prices from the Sole Mfrs.

Wm. Cooper & Nephews, Berkhamsted.

Weeds Killed: Grass invigorated by

"CLIMAX" LAWN SAND

When applied during dry weather
 daisies and other weeds are destroyed
 and a fine growth of grass quickly
 covers the places occupied by dis-
 figuring weeds. Thousands of weedy
 and poor lawns have been trans-
 formed by Climax Lawn Sand. Why
 not yours? Try it now. 7lbs. 2s., 14lbs.
 3s. 6d., 28lbs. 6s., 56lbs. 11s., 112lbs.
 20s. Carriage paid. Sample Tin
 1s. 6d., post free.



PROTECT YOUR PLANTS
 From Slugs, Grubs,
 Caterpillars, Ants,
 Wireworm, and the
 Domestic Cat—



By ALPHOL

A non-poisonous Manure, deadly to
 every creeping thing, yet does not
 injure the foliage of plants. Testi-
 monials on application. 7lbs. 2s.,
 14lbs. 3s. 6d., 28lbs. 6s. Carriage paid.
 Sample Tin 1s. 3d., post free.



On Garden Paths, Carriage Drives, &c.
 By "CLIMAX" WEED KILLER

ONE APPLICATION KEEPS
 Down every growth for 12 months. No
 hoeing or weeding.
PATHS ALWAYS BRIGHT AND CLEAN.
 No. 1 Tin to dress 100 square yards, 2s.
 2 Tins 3s. 6d. Post free.
 No. 2 Tin to dress 400 square yds. 6s. 6d.
 2 Tins 12s. 6d. Carriage paid.

BOUNDARY CHEMICAL CO., Ltd.
Cranmer St., LIVERPOOL

to let the soil run between the roots. When all the roots are spread out and covered, add the remaining soil, and tread firmly. The depth of the planting should be such that the upper roots will be about 2 or 3 inches below the surface when finished. If any roots are jagged or torn, cut the ends cleanly off with a sharp knife, and shorten back all strong and downward roots. Dwarf or bush trees may be planted from 8 feet to 12 feet apart, and half standards from 20 feet to 24 feet apart.

MANURING.—Do not apply manure directly to the roots at time of planting; but when planting has been finished, a dressing of half-rotted manure should be spread on the surface of the soil round each tree for a distance of about two feet from the stem, care being taken not to allow the manure to come into contact with the stem. A top-dressing of manure applied every winter tends to keep the roots growing near the surface, and also helps to keep moisture about the roots in dry, hot summer weather.

PRUNING.—Trees must be pruned the first year, but this operation may be put off until March, when any branches which are inclined to grow *inwards*, and which tend to crowd up the centre of the bush, must be cut away, except about two inches, which should be allowed to remain; the leading or main branches or *young*

growths which are growing in an outward direction should have half of their length cut off, allowing half to remain and form the main branches of the tree. Always be careful when cutting these "leading" growths that the cut is made about $\frac{1}{2}$ -inch above a bud which is pointing in an *outward* direction. Always use a sharp knife.

IMPORTANT.—*What to do if your Trees are making very Strong Growth and giving no Fruit.* Sometimes apple trees break into very strong growth when they have been planted for 3 or 4 years, and do not produce any fruit, when this is the case they should be "root pruned." This is best done during the early winter months by cutting a trench round the tree, about 3 feet from the stem for 8 or 10 year old trees, and about 2 feet for trees planted 3 years; then work in well under the tree, and cut any strong or downward roots; in fact, young trees would be better lifted altogether and replanted. This operation will check the growth, and fruit buds will be formed the following summer.

GENERAL HINTS.—*Planting Time.* All fruit trees may be planted between November and February, but no planting should be done during frost or when the soil is very wet and sticky.

Deep planting should always be avoided, as it tends to cause the trees to become diseased, especially in wet or

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S. SPOONER & SONS

Fruit Tree Growers

HOUNSLOW NURSERIES

HOUNSLOW, MIDDLESEX

Fruit Trees a Speciality

Over half-a-million to select from

100,000 One and Two-year Old

Apples on English Paradise

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INSPECTION INVITED

RITCHIE'S SELECTED BULBS

PLANT NOW

TULIPS FOR BEDDING

	doz.	100
	s. d.	s. d.
Artus, scarlet, fine flowers	0 8	5 0
L'Immaculee, pure white	0 6	3 0
Chrysolora, deep yellow	0 6	3 0
Rose Cris-de-lin, rosy pink, for potting or bedding	0 8	5 0
Belle Alliance, crimson	1 3	9 0
Pottebakker, white	0 8	5 0
Mon Tresor, yellow	1 0	6 6
Keizers Kroon, striped	0 10	6 0

Darwins, Parrots, and May Flowering in all the best named varieties

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ARTHUR S. RITCHIE & Co.

Bulb Growers and Importers
 (Department 1, VICTORIA STREET BELFAST

heavy land. In very wet land it is better to plant almost on the surface, and mound the soil up over the roots.

When trees are planted in grass land, it is strongly advised to keep a portion (say 4 or 6 feet) of the ground round them tilled or free from weeds for 2 or 3 years at least.

Bush trees are best for planting in tilled ground or gardens, and half standards in grass land (the latter have 3 feet of a clean stem).

If the natural soil is very poor, a little richer garden soil may be brought for shaking amongst the roots, and to give the tree a good start.

The purchase of trees at auctions or markets is not recommended, because they may or may not be true to name, and the roots are usually dried up and shrivelled.

Fruit trees yield in proportion to what they receive, hence it is that thorough cultivation secures the best results.



Catalogues.

WATSON'S FRUIT TREES, ROSES, SHRUBS, FOREST TREES, &c., is a carefully compiled, descriptive list of plants grown at the Clontarf Nurseries. A good illustration (among others) is given of that handsome white H. P. rose Frau Karl Druschki. The catalogue is attractively got up, and should be useful for reference.

FRUIT TREES AND ROSES, being a catalogue of the trees, &c., grown and distributed by W. Seabrook & Sons, Chelmsford. Mr. Seabrook is well known as a successful propagator of trees worked on dwarfing stocks, and a great advocator of bush and cordon, as against the "standard" type of orchard tree. Planters will do well to consult this catalogue, and read what Mr. Seabrook says about trees and orchard planting.

County Armagh Grown Fruit Trees

Very Large Stock of—
APPLES . CHERRIES .
PEARS . RASPBERRIES .
PLUMS . STRAWBERRIES

Immense stock of Black Currants, new varieties; grand bushes, clean and healthy, 2, 3, and 4 years' old. Also Shrubs, Forest Trees and Thorns of Sizes

Orders have prompt attention
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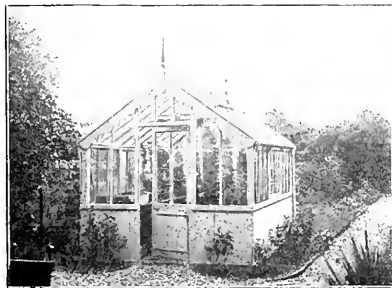
Nurseries, Killylea, Co. Armagh

LOOK! ROSES! ROSES!

ROSES A SPECIALITY.—12 acres of Roses to select from in all very best varieties. All carriage paid for cash. Plant early. Established over 50 years. 12 best selected Standard Roses, 40s. to 48s.; 12 choice Half-Standard Roses, 24s.; 45 very best Dwarf Perpetual Roses, 24s. or half collections; 12 grand Teas or Hybrid Teas, 8s. to 10s.; 12 best Dwarf Perpetuals, 6s. till; 6 finest Climbing Roses, 4s.; 6 best assorted Rambler Roses, 4s.; 6 Crimson Ramblers, 3s. 6d.; 6 choice Moss Roses, 3s.; 12 splendid China and Polyantha Roses (Dwarf), fine for beds, 6s.; 6 Old Pink or Crimson Monthly Roses, 3s.; 12 hardy Evergreen Kuning Roses, for rockeries, banks, &c., 5s. 6d.; 50 Bush Roses from best sorts, unnamed, good stuff, 12s. 6d. Thousands of all best Fruit Trees, Bush Fruits, &c., Shrubs, Climbing and Herbaceous Plants, Bulbs, &c., cheap. Descriptive Catalogue and cheap Lists free. Thousands of Testimonials. "How to Grow Roses" book, post free, 4d. Plant now

JAMES WALTERS, ROSE GROWER

MOUNT RADFORD, EXETER



CHEAP SECTIONAL GREENHOUSES

HOT WATER HEATING APPARATUS

KENNAN & SONS, LTD. FISHAMBLE STREET **DUBLIN**

FOR COLD, WET WEATHER.

FELT-LINED CLOGS

(with 2 Buckles)

Only **3/6** Post Paid.



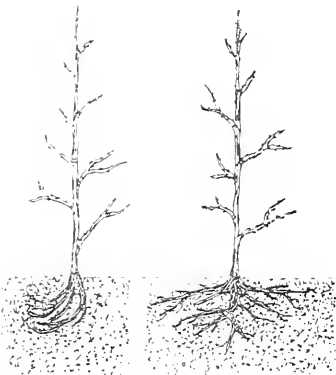
Sizes, 3's to 11's.

Customers delighted. Feet Cozy and Warm. Hundreds of pairs already sent away to all parts. Try ONE PAIR, and you are certain to be selling pairs to your friends near you. Some customers have got dozens of Pairs, and are praising them at a great rate.

JOHN GREENLEES, 4, WELLINGTON ST., GLASGOW.

Answers to Correspondents.

TRANSPLANTING OF SHRUBS AND SMALL TREES. ("Exposure"). We cannot do better than draw your attention to the accompanying diagrams illustrating



DEFECTIVE PLANTING.

PLANTING AS IT OUGHT TO BE DONE.

how and how not to plant. A hole should be prepared deep enough and wide enough to hold the root system without bending any of its branches. Should any branches be injured, the injured part should be cut off with a sharp knife so as to present a clean, level surface, from which new fibrous roots will easily and rapidly spring. Keep the roots apart and in tiers, working fine earth into all the spaces and using the hands when necessary. Compress the earth firmly round the roots, puddling with water if there is any difficulty in the matter. When completed, the young tree is planted as shown in the central figure. Do not make a narrow hole and shove in the roots as shown in the figure to the left, and do not leave air-spaces among the root branches, as represented the figure to the right.

WINDOW GLASS.

Polished Plate for Shop Windows.
Horticultural Glass at Lowest Rates.

DEATH TO THE WEEDS.
HOYTE'S WEED KILLER.

Strongly Recommended for the Destruction of Weeds, &c.

Price, 2s. per gallon; 5 gallons, 1s. 6d. per gallon; 10 gallons, 1s. 3d. per gallon; Original 40-gallon casks, 1s. per gallon.

HOYTE & SON, The City of Dublin Drug Hall,
17 LOWER SACKVILLE STREET, DUBLIN.

MUSHROOMS IN GRASS. ("An Enquirer"). We have ourselves no personal experience in the matter of "spawning" pasture land, but have consulted one of our contributors, who informs us that if the bricks are broken up into small pieces and inserted about May or June in the turf to a depth of about three inches a crop may be fairly expected.

SELECTION OF APPLES ("A.K."), MARKET GOOSEBERRIES ("P.O.M."), TREATMENT OF RECENTLY PLANTED FRUIT TREES ("M."). See reprint of Mr. Bowers' instructions for intending planters in this number.

ARBOR DAY ("Schoolmaster"). See report in this number, and note the recommendations of Mr. Moore.



DEFECTIVE PLANTING.

IRISH INDUSTRY**Flower Pots, Seed Pans**

AND ALL KINDS OF
HORTICULTURAL POTTERY
OF SUPERIOR QUALITY

Exceptionally Good Terms

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ENNISCORTHY

Agents for Dublin and District—Messrs. E. BROWETT & SOSS, 7 Upper George's Street, Kingstown

BEST HOUSE COALS

AND **COKE** FOR HORTICULTURAL PURPOSES

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WILL NOW BE OCCUPIED WITH THE

CLEANSING OF FRUIT TREES & PLANTS

THE dormant season is the time to wage war against Mealy Bug, Scale, &c. These pests can speedily be got rid of under glass by the use of "XL-ALL" NICOTINE LIQUID INSECTICIDE. For preparing Fruit Trees and Bushes out of doors for a clean, healthy start next spring, nothing is so effectual as a good spraying, after the leaves have fallen, with RICHARDS' "XL-ALL" WINTER WASH, which will destroy American Blight, other insects, moss, &c., and make the bark clean and healthy. Can be obtained everywhere from the Horticultural Trade.

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DESIGNING, Laying out and Planting of New and Renovating of Old Gardens. The Making and Planting of Rock Gardens, Rockeries, and Pergolas a Speciality. Plans Prepared. Estimates Free.

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Mount Henry

Dalkey, Co. Dublin

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ABSOLUTELY UNEXCELLED

ARE my 3 and 4 year old Bush and Half Standard Apple Trees. Department recommended varieties at 10/- to 15/- per doz. Victoria and Linneus and St. Martin Rhubarb at 3/- to 5/- per doz. Thorn Quicks at 15/- to 20/- per 1,000. Forest Trees, Ornamental and Flowering Shrubs. All healthy, clean and regularly transplanted. Prices very moderate. Lists Free.

W. HAMMOND, Paulberg Nurseries, Shillelagh

AUTO-SHREDS IS CERTAIN DEATH to Leaf-mining Maggots, Mealy Bug and all Pests infesting plants under glass, &c. Simple to use, no apparatus required. In Boxes to fumigate 1,000 cubic feet, 6d.; 10,000 cubic feet, 3s. 6d. each. Obtained of Seedsmen and Florists; if unobtainable apply direct—

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Vegetable, Flower, and Farm Seeds

From the Finest Stocks and Strains in Cultivation.
Catalogue Post Free.

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Telegrams—"THOMPSON, SEEDSMAN, CORK."

CHEAP FRUIT TREES

OUR special collection now containing 1000 young fruit trees, Bush or Pyramidal Apples, 2s. 6d.; 1/2 each; James Pirnie, Albert, A.W. Orange, Pippin, North's Beauty, James Grieve (new), Hubbard (new), Allington, Pippin, Bramley, Seedling, Newton Wonder, 2 Victoria Plums, 1 Green Gage Plum, 1 choice Pear. The above collection pack of three, in cartons, paid 3s. 6d. extra. These are not rubbish but are 100% fully satisfactory in quantity and your money returned. We also offer choice collection of Climbing Roses for 2s. 6d. 1/2 foot in height, all different colours; also our collection of Dwarf Roses, strong sturdy stuff, all different varieties 1s. per dozen. Try a change of soil, our goods will please you, if not we return cash.

BAMBER & SON

Norfolk Nurseries, ELM, WISBECH, CAMBS.

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Sent post free on receipt of post card.

For Early Single Chrysanthemum and

Pentstemon Seed, see page 59

"THE CULTURE OF THE CHRYSANTHEMUM"

By W. WELLS. Post free, 1/6

W. WELLS & Co., MERSTHAM, SURREY

PURE ICHTHEMIC GUANO.

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FAME'S FERTILISER.
Swift, Safe, and Sure.

Supplied in Tins and Bags, 4d. to 20/. Carriage paid on quantities of 25 lbs. and upwards.

Ask your Seedsmen or apply direct of the Sole Proprietors and Manufacturers,

WM. COLCHESTER & CO.,

IPSWICH, England.



FRUIT TREES IN ALL FORMS

Many thousands are being supplied yearly to customers in all parts of Ireland, and are giving entire satisfaction

Illustrated Catalogue and Cultural Instructions sent free on application . . .

Customers ordering through the post may rely on receiving as good trees as those personally chosen



Very large stock of
BUSHES
PYRAMIDS and
TRAINED TREES
on Specially Selected
Fruiting Stocks . . .

CORDONS
A Speciality

250,000 TREES TO
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W. SEABROOK & SONS, THE NURSERIES, CHELMSFORD

"Has stood the test of a quarter of a century."

THOMSON'S Vine, Plant, and Vegetable MANURE.

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FOR VINES,
TOMATOES,
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FRUIT BEARING
PLANTS,
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The result of
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PERFECT PLANT FOODS

Sold by
Seedsmen and
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This valuable Manure is yearly growing in public favour.

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THOMSON'S SPECIAL CHRYSANTHEMUM MANURE.

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WM. THOMSON & SONS, LTD.,
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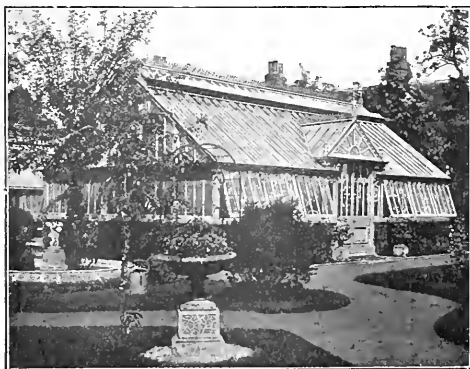
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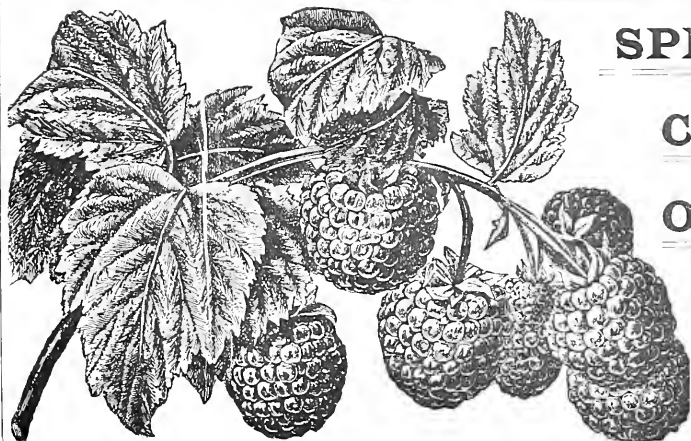
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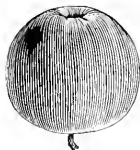
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All have been regularly transplanted, and will lift with grand fibrous roots which cannot fail to give good results

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And How to Destroy Them.

See the Testimonials for "Liverpool" Virus. Many Dublin merchants and householders praise it highly. No risk to other animals. Thousands of packages used all over Ireland.

Prices 2s. 6d. and 6s. per tin (postage 3d. and 4d. extra). Special Virus for Mice, 1s. 6d. per tin (postage 2d. extra). All ready prepared; no further mixing required. Fresh supplies can always be had from

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Chemist, &c.

TESTIMONY

Dublin, Oct. 14, 1909.

Offices—14 D'Olier St.
Stores—Ringsend, &c.

Dear Sir,—We have great pleasure in stating that the "Liverpool" Virus has proved very satisfactory in destroying the Rats in our Stores at Ringsend. We highly recommend it to everyone.

(Signed),

FLOWER & McDONALD
(per pro O. Stafford)

(Irish Salt Manufacturers, Coal,
Coke, and Corn Merchants)

TESTIMONY

Murray, Sons & Co., Ltd.

Belfast, Aug. 18, 1909.

Dear Sir,—I will feel much obliged if you will kindly post a phial of "Liverpool" Virus for Mice. I got some from you about a year ago and it had a marvellous effect. From about three weeks after I put it down I have not seen a single mouse in the house which previously was overrun with them.

Yours truly,

JOHN SHAW, Secretary.

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WINTER SPRAYING OF FRUIT TREES to remove Lichen, &c.

CAUSTIC SODA, 98 per cent.
PEARL ASH, 75/80
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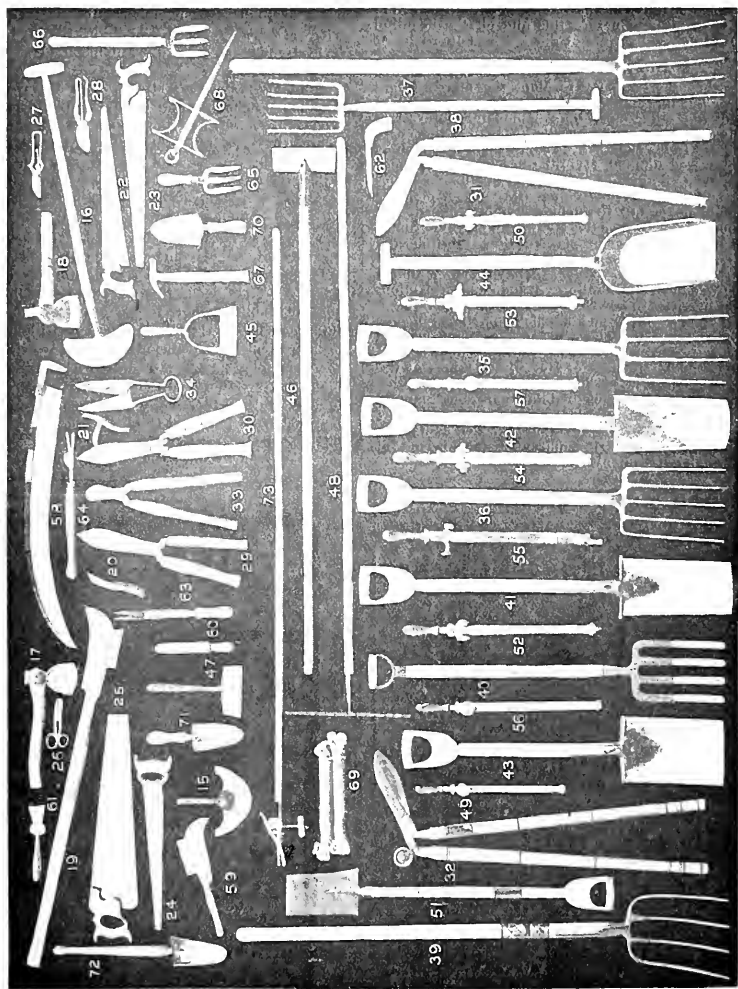
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GEORGE MEREDITH produces an indelible impression on the imagination by his description of a white cherry in *The Egoist*, and to true lovers of the open air and nature this and all the beautiful flowering trees and shrubs of our gardens afford great delight.

It is commonly remarked by nurserymen in this country that the tendency to plant the more sombre evergreens is hard to combat, and many a plant merchant who takes more than a monetary interest in his business wishes at the planting time that he could only present to his clients' eyes some such specimen as a well-flowered Almond, Hybrid Cherry, or Japanese Crab Apple as it appears in the glory of its flowering season, and which anyone can grow. When planting one should never fail to include a fair proportion of deciduous flowering varieties; although most unpromising in appearance, when planted they brighten the entire surroundings in their respective seasons and charm every beholder. One can have bloom almost the year round by planting a judicious selection. Amongst the first to flower is *Amygdalus Davidiana*, a beautiful double white Almond which sometimes blooms as early as January. There are others, such as *Forsythia suspensa*, which flaunt their flowers for weeks in the face of the harsh winds of March, and a host of the best things come in during the succeeding months. Varieties are too numerous to detail here, but planters should send to Messrs. Watson and Sons, Clontarf Nurseries, Dublin, for their catalogue, which contains a collection suitable for most requirements and priced at figures which deter none.

Royal Horticultural Society of Ireland.

THE monthly meeting of the council was held at the society's offices, 5 Molesworth Street, Dublin, on November 12th, members present being Messrs. J. J. McDonough, R. T. Harris, J. Wylie-Henderson, W. J. Mitchison, R. Anderson, D. L. Ramsay, W. F. Gunn, Geo. Watson, H. P. Goodbody, and F. W. Moore, with Mr. G. M. Ross presiding. Accounts and prizes for the winter show, as recommended by the Finance Committee, were ordered to be paid. Shows for 1910 were brought under notice, and beyond the spring fixture, already settled, the advisability of an early summer show in the interests of rose-growers, and a later one for the sweet pea exhibitors, with the possibility of dropping the winter fruit show, was discussed. The latter, it may be remarked, while being exceedingly well supported by exhibitors, and providing a meritorious display of Ireland's capabilities in this direction, does not receive sufficient public support to warrant the Council undertaking such and risking heavy loss without serious consideration. The retiring members of the Council this year (eligible for re-election) are Messrs. W. F. Gunn, F. W. Moore, M.A.; G. M. Ross, M.A.; H. P. Goodbody, R. Anderson, W. J. Mitchison (practical), D. Houston, A.L.S., and C. M. Doyne, D.L., notice of which has been sent to all members of the society. A selection of hardy flowers and berried subjects sent by

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FOR THE PROPAGATION OF EARLY VEGETABLES, &c.

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LEADING HORTICULTURAL MANURE

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Occupies the first place with Horticulturists
One cwt. will go as far as $1\frac{1}{2}$ cwts. of most
Garden manures

Other essentials for the Garden and Greenhouse—

CROSS'S CLUBICIDE**CROSS'S NICOTINE VAPORISER****CROSS'S
ORGANIC TOMATO GUANO**

To be had from your Seedsman

Manufactured by

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*Forest Fruit
& all other
Trees & Plants
Evergreens
Roses &c.
Stocks quite
unequaled.
Catalogues free
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Concentrated Alkali**

— ENORMOUS AND RAPIDLY-GROWING SALE —

A quick-acting and
most popular Non-
Poisonous Winter Wash

Highly effective and convenient for use as a Winter Spray upon Fruit Trees and Forest Trees of every kind. Destroys Insects (whether in the active or dormant state), Spores of Fungi, Lichens, Mosses. Cleanses the bark from vegetable growths. Detaches loose and decayed bark, thereby exposing the harboring places of the Insects, and having on these a most deadly effect without injuring the trees

REDUCED PRICES

1 to 5 tins, **1/3**; 8 tins, **1/2**; 12 tins, **1/1**; 20 tins, **1/1d.**; 40 tins, **1/0d.** each

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SOME REALLY CHOICE HARDY PLANTS

PLANTS in three's. *Minulus Cardinalis Grandiflora*, 3 for 1/-; *Cornopsis Grandiflora* "Eldorado", new, 3, 1/3; *Pyrethrum Eximae Snowball*, 3, 1/-; *Pyrethrum Parthenium Grandiflorum*, 3, 1/-; *Geum Heldreichii Superbum*, 3, 1/3; *Geum Heldreichii Luteum*, 3, 1/3; *Geum Guildford Variety*, 3, 1/-; *Campanula Humosa* and *Merheimii*, finest double blue and white, 3 of each, 2/-; *Helianthus Mollis*, 3, 1/3; *Chrysanth. Max. Rev. Chas. Lunn*, perpetual flowering, grand, 3, 1/-; *King Edward VII.*, 3, 1/-; *Hieracium Rubrum*, 3, 1/3; *Hemerocallis Dr. Regel*, 3, 1/3; *Tradescantia Major*, deep purple, Major Alba, very fine, 3 each, 2/-; *Gaillardia Maximum*, special hybrids, 6, 1/6, 12, 2/6; *Cornopsis Tennifolia*, charming, 3, 1/-; *Achillea* "W. B. Child", new pine white for cutting, 3, 1/3; *Linum Lewisii* and *Alba*, 3 each, 1/6; *Centaurea Macrocephala*, 3, 1/-; *Dianthus Superbus Abus*, delightfully sweet, 4, 1/3; *Arabis Koseni*, new lovely rose, 3, 1/-; *Phlox W. B. Child*, new immense scarlet crimson spikes, 1/- each; *Dianthus* "E. T. Anderson", new, finest in existence, large crimson scarlet flowers size of crown piece, grand for rock garden or border, 1/- each, 3, 2/6; *Phloxes*, 6 extra, named, 1/9, 12, 3/-; *Delphinium*, grand named, 3, 1/-; 6, 1/9; *Gloxinia Foxglove*, 6, 1/2, 12, 1/9; 6 *Pyrethrum*, Single, 1/9, 6 Double, both to name, extra, 1/9; 3 *Gypsophila* *Pan. Compacta*, the best, 3, 1/-; 6 Double *Crimson Sweet Williams*, 1/-; 12 "Holborn Glory", grand stuff, 1/6; 12 "Pink Beauty", 1/6; 3 *Anthemis Kewlyii*, 1/-; *Physalis Bunyardii*, the finest "Chinese Lantern" plant, 3, 1/-; *Violas*, grand stuff, in 20 best vars., 10/-, 100, 50, 3/6; 12 *Up-to-Date Michaelmas Daisies*, 4/-, nothing finer, 6 for 2/3. Thousands of other things to offer, all carriage paid, sure to please. 6 plants added to every 10/- order, 12 to 20/- order, *Purchaser's Selection*.

Child's Hardy Plant Nursery, Acock's Green, BIRMINGHAM

CHRYSANTHEMUMS

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Now Ready, post free. The Choicest Varieties, as supplied to the leading exhibitors for the past 35 years. Also a Splendid Collection of Singles, Decorative Varieties, and the Best and Choicest Michaelmas Daisies
Chrysanthemum Nurseries, FRAMFIELD, UCKFIELD, SUSSEX

Miss Berta F. M. Doyne, Seafield, Gorey, Wexford, all being from the open, showed the favourable climatic conditions there prevailing so late in the season. A vote of thanks was duly accorded to Miss Doyne for her interesting exhibit. A new seedling apple came from Mr. Robert Armstrong, Drummyarkin, Dartrey, Co. Monaghan, for the council's opinion. This was a promising-looking fruit, but, being an early kind, was found on examination to be past its best, and the council expressed the wish to see the same again under more favourable conditions. Six new members were elected—viz., Clara Laidy FitzGerald, Carrigoran, Newmarket-on-Fergus; His Honor Judge Bird, Churchtown, Dundrum; Mrs. McFerran, Carbury, Enfield, Meath; James Robson, Bray Lodge, Bray; A. J. Elgar (practical), Killarney House Gardens, Co. Kerry; Wm. Wood (practical), Desert Castle Gardens, Kilkenny. A vote of thanks was passed to the Dublin Industrial Development Association for aid in giving publicity to the recent fruit show, a similar acknowledgment being paid to Messrs. Chas. Ramsay & Sons, The Royal Nurseries, Ball-bridge, for the loan of palms to decorate the fruit tables. It is desirable that those contemplating membership for 1910 will send in their names at an early date in order that same may be included in the new annual report and schedule which will be published early in January. A gratifying increase in the membership is noted during the passing year.

Clare Horticultural Society

The fourth annual meeting of above society was held on November 4th, when the secretary presented a balance sheet which showed a very desirable turn in the tide of the affairs of the Society, for after holding two very successful shows—spring and summer—a deficit of £7 os. 10d. was converted into a balance of £2 17s. 9d. with staging and vases to the value of £25. After several complimentary speeches, Mr. R. Vere O'Brien—who has been an exemplary president for the past two

years—resigned with a view of giving other prominent supporters of the society an opportunity of performing the presidential duties, and Mr. Marcus Keane was asked to accept the office for the year 1910. Rev. R. Scott was re-elected vice-president. Mr. N. S. P. Waring, Treasurer, and Mr. H. Bill, Hon. Sec., and the past year's committee was re-elected *in globo*.

The annual report contained very flattering allusions to Lady Dunalley, Lady Barrington, and Mrs. R. H. Crowe, also the following gardeners:—Mr. J. Langster (Sir J. Gore Booth), Mr. Thomas Dunne (Lord Gough), Mr. J. Quinn (Lord Clonbrock), Mr. J. Laurie (Lord Ashtown), Mr. J. Murphy (Sir Chas. Barrington), and Mr. J. Falkiner (Lord Dunalley), who had very ably performed the duties of judges in the several departments of the show.

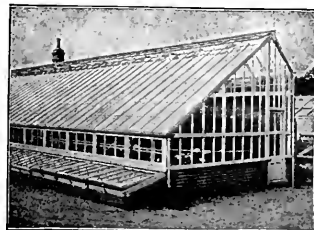
Sincere thanks was expressed to Lady Inchiquin, Major S. C. Hickman, D.L., and the following nurserymen:—viz., S. Anketell Jones, Gowran, Messrs. Toogood & Sons, Southampton, Messrs. R. Sydenham, Ltd., Tenby Street, Birmingham, Messrs. Watsons & Sons, Clontarf Nurseries, and Mr. W. Bill, Birmingham Road, Walsall, for their liberality in the matter of special prizes.

The following arrangements were made for the year 1910:—Daffodil and spring flower show about April 13th, and summer show, August 10th.



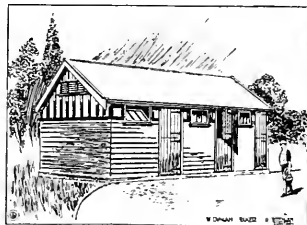
THE use of clogs for gardening in winter is advocated by students of health. In Holland, the wettest country in Europe, clogs are at all seasons used by workers on the land—men, women and children. Wood being a bad conductor of heat keeps the warmth of the feet from escaping to the cold ground, and being a poor absorber of water keeps moisture from reaching the feet. We notice that clogs made by one of our advertisers are still further improved in comfort by the addition of a lining of felt. Clogs have another advantage over and above their hygienic value—they are cheap and lasting.

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houses of all descriptions.
Portable Buildings for every
purpose

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Kindly mention this paper.



27 CANNON STREET, LONDON, E.C.

Works—Tottenham

The Dublin Wholesale Markets.

DURING the past month the markets have been well supplied with fruit and vegetables. Flowers have been scarce, except chrysanthemums, which have been plentiful, outside ones in the beginning and cut blooms from pots towards the end, the latter being particularly fine. White blooms were especially in demand. Violets are beginning to come in, but are not plentiful yet. White lilies and tuberoses are making their appearance. All through the month apples have been plentiful, Irish-grown holding their own with Canadian and American. There were some very fine Bramleys in barrels about the middle of the month, which sold well; where the fruit is graded and carefully packed so as to arrive in the market undamaged it pays, but loosely packed and mixed fruit have been selling badly. By "mixed" is meant the sending of five or six varieties of different sizes to be sold together in boxes or barrels, as the case may be, and in most cases fruit packed in this manner is sold to hawkers at clearing prices.

A better illustration of marketing fruit could not be seen than the system of grading and packing that is carried out at an Educational Institution near Dublin. Fruit sent to the market from it is bought very quickly, as buyers have learned to know that by buying in bulk from this source the fruit are exactly the same in quality in the bottom as those placed on the top. The following are the prices for the month:—

FRUIT	From		To
	s.	d.	s. d.
Apples—Allington Pippin, per doz.	. 0	0	1 0
Wamsley do.	. 0	10	1 0
Golden Noble, ½ bushel	. 1	8	2 6
Bismarck, do.	. 2	0	2 6
Lord Derby, do.	. 3	0	0 0
Bramleys, barrel	. 8	0	12 0
King of Pippins, float	. 1	6	2 0
Pears—Good Ripe, four doz. trays	. 2	6	5 0
Second Quality, do.	. 1	4	2 6
Others, do.	. 1	0	1 0
Grapes—Home-grown, per lb.	. 0	8	1 4
VEGETABLES			
Brussels Sprouts, per float	. 2	0	3 0
Parsley, do.	. 0	2	0 6
Artichokes, Jerusalem do.	. 1	10	3 4
Spinach, do.	. 0	3	0 8
Celery, doz.	. 1	9	2 4
Carrots, do.	. 0	8	1 6
Leeks, do.	. 0	2	0 6
Salad, do.	. 0	4	0 7
Beet, do.	. 1	6	3 0
Cauliflowers, flasket	. 2	0	3 6
Cabbage, per load	. 4	6	7 0
do. Early York do.	. 6	6	12 6
do. Savoy do.	. 4	6	7 0
Herbs—Mint, Sage and Thyme, doz. bunches	3	6	5 0
Flowers—Chrysanthemums, out-door per bunch	0	9	1 6
do. 1st pot blooms per dozen	. 1	0	2 0
do. 2nd pot blooms per dozen	. 0	6	1 6
Violets, per doz. bunches	. 0	9	2 0
Carnations, per bunch	. 1	6	2 0
Roses, do.	. 0	8	1 6

ROBERT HUGH CLARKE.



1910 New Volume IRISH GARDENING

The new volume will sustain the old standard of excellence as to authoritative articles on both the practical and scientific side of gardening, but new features and new writers will be introduced during the course of the year. Every Irish gardener and every owner of any sized garden in Ireland should obtain "Irish Gardening" (monthly) and read it! and having read it should preserve it for binding—it is worth it



Chrysanthemum Show,

9th and 10th November, 1909.

MESSRS. ARTHUR S. RITCHIE & Co., Seedsmen, Nurserymen, and Florists, Victoria Street, Belfast, staged a very fine exhibit, which was, perhaps, a chief feature of the Show, and attracted great attention and admiration from the vast number of visitors. Besides, a number of artistically-arranged Floral Designs, including Wreaths, Crosses, Bouquets, &c., Messrs. Ritchie arranged two splendid groups of Plants, consisting of all the new varieties of Nephrolepis, Pteris, Adiantums, Araucarias, Palms, &c., beautifully intermixed with some of the latest varieties of Crotons. They also staged a splendid collection of Apples, including such varieties as "Bramley's" Seedling, Lane's Prince Albert, Bismarck, Mere de Menage, Gascoyne's Scarlet, Lady Henniker, Allington, and King of Pippins, the fruits being exceptionally good in size and colour. Their arrangement of potatoes was also a special treat, including some of the newest varieties, such as Colleen, British Queens, No. 2, Longholm Model, Carnegie, White City, &c. The whole arrangement was most artistically arranged, and a credit to this enterprising firm.

Answers to Correspondents.

SEX IN PLANTS.—An "Enquirer" new to gardening and unfamiliar with the elements of botany, having

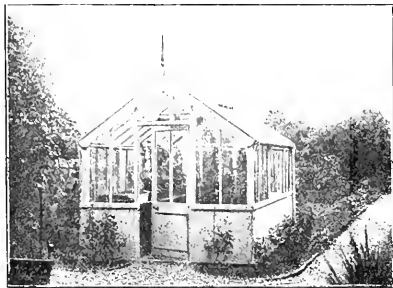


Vertical section of a Male Flower of Vegetable Marrow, showing anthers but no ovary.

observed that all the flowers in a vegetable marrow vine do not produce fruit, asks the reason. The reason is that in vegetable marrows and quite a number of other plants the sexual organs are in separate flowers—some being seed-producing (or female) only, and others being pollen-producing or male only. The male flowers, after liberating the pollen, wither away; the female flowers, after being fertilised with pollen, continue to grow and develop fruits. The accompanying illustration shows a male flower in section. The pollen-producing sacs or anthers are shown within the joined

petals, and it will be noticed that there is no ovary underneath the bloom, as is the case in the female or seed-producing flowers.

The enquirer need scarcely be reminded that these male flowers therefore are as necessary for the produc-



CHEAP SECTIONAL GREENHOUSES

HOT WATER HEATING APPARATUS

KENNAN & SONS, LTD. FISHAMBLE STREET **DUBLIN**

PLANT NOW

BULBS FOR **SPRING FLOWERING**

HYACINTHS for bedding, named varieties, 1/8 doz., 12-100.

HYACINTHS for pots and glasses, 3d. each, 2/6 doz.

HYACINTHS for ornamental bowls, 1/3 doz.

TULIPS in all the glowing colours, from 6d. doz., 3/6 100.

TULIPS DARWINS, May-flowering, from 7d. doz., 4-100.

DAFFODILS in the best varieties, from 6d. doz., 3/6 100, 30-1,000.

CROCUS, white and striped, 1/- 100, 8/6 1,000.

SNOWDROPS, Single, 2/6 100; Double, 3/- 100.

SPANISH IRIS, finest mixed, 1-100.

LILIUM CANDIDUM (Madonn Lily), 4d. each, 3/6 doz.

LILIUM CROCUM (Orange Lily), 4d. each, 3/- doz.

WALLFLOWERS Strong hardy transplanted, separate colours, or mixed, 6d. doz., 3/6 100.

ARTHUR S. RITCHIE & Co.

Bulb Importers and Growers

(DEPT. L.) **VICTORIA STREET, BELFAST**

tion of fruit as the female flowers, although it is said that in cucumbers (plants botanically allied to "Marrows") fruit may be produced without previous fertilization.

Tritelia (Milla) *Uniflora*.

This handsome species belongs to a small genus of South American bulbous plants. The flowers are about the size of a florin; the spreading stamry segments are white, shaded a lovely soft lilac-blue. Planted in a warm border it will flower freely from March till May. The small bulbs may be bought very cheap. Once in four or five years they should be lifted and replanted as they multiply freely. One remembers a very fine effect produced by this planted on a rockery, in association with *Anemone fulgens* and *Tulipa sylvestris*.

Notes.

MARIGOLD.—This is an old garden favourite, and one of the best for autumn and winter flowering in cottage gardens. It is a biennial and hardy, and for late flowering its seeds should be sown in July. Its petals used to be used to flavour dishes, hence its name "pot marigold." Canaries are very fond of the blossoms, and it is said that they improve and deepen the colour of their plumage.

BEAUTIFUL FLOWERS AND HOW TO GROW THEM.—We have received the sixteenth monthly part of this handsomely illustrated work issued by Messrs. Jack of Edinburgh. The plates are all good, but the one entitled "A beautiful garden" by Beatrice Parsons is a specially fine study in colour. The price of each part is 1s.

THE Lancashire County Council has set an example that might well be followed by other county authorities. This body has recently passed a resolution that no more hideous advertisement boards be erected in the beautiful lake districts in the county, and that those that are already there be immediately taken down. It is about time that some restraint be put upon the outrageous eyesores erected by adventurous advertisers throughout the beauty spots of our country.

FOR COLD, WET WEATHER.

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NOTICE—

TO THE READERS OF

"IRISH GARDENING"

The present number completes the Fourth Volume of "Irish Gardening." A Title-page and Index will be issued next month, and will be sent free to any Subscriber applying for same.

Readers of "Irish Gardening" are asked to kindly introduce the paper to any of their friends interested in plants and gardening, and to suggest that the commencement of a new volume is a good time to become a subscriber.

Department of Agriculture and Technical Instruction for Ireland

LIST OF THE DEPARTMENT'S LEAFLETS

No.	Name	No.	Name
1	The Warble Fly.	50	Portable Poultry Houses.
2	<i>Out of Print.</i>	51	The Leather-Jacket Grub.
3	<i>Out of Print.</i>	52	Flax Experiments.
4	<i>Out of Print.</i>	53	The Construction of a Cowhouse.
5	<i>Out of Print.</i>	54	Calf Meal.
6	Charlock Spraying	55	The Apple.
7	Fluke in Sheep.	56	Cultivation of the Root Crop.
8	Timothy Meadows.	57	Fruit Packing.
9	The Turnip Fly.	58	Sprouting Seed Potatoes.
10	Wireworms.	59	Seed Testing Station for Ireland.
11	Prevention of White Scour in Calves.	60	The Packing of Butter.
12	<i>Out of Print.</i>	61	<i>Out of Print.</i>
13	Contagious Abortion in Cattle.	62	Plans for Creamery Buildings.
14	Prevention of Potato Blight.	63	"Redwater" or "Blood Murrain" in Cattle.
15	Fertilizers and Feeding Stuffs Act, 1906, Regulations.	64	Varieties of Fruit suitable for cultivation in Ireland.
16	Sheep Scab.	65	Forestry: The Planting of Waste Lands.
17	The Use and Purchase of Manures.	66	Forestry: The Proper Method of Planting Forest Trees.
18	Swine Fever.	67	Forestry: Trees for Poles and Timber.
19	Early Potato Growing.	68	Forestry: Trees for Shelter and Ornament.
20	Calf Rearing.	69	The Prevention of Tuberculosis in Cattle.
21	Diseases of Poultry—Gapes.	70	Forestry: Planting, Management, and Preservation of Shelter-Belt and Hedgerow Timber.
22	Basic Slag.	71	Forestry: The Management of Plantations.
23	Dishorning Calves.	72	Forestry: Felling and Selling Timber.
24	Care and Treatment of Premium Bulls.	73	The Planting and Management of Hedges.
25	Fowl Cholera.	74	Some Common Parasites of the Sheep.
26	Winter Fattening of Cattle.	75	Barley Sowing.
27	Breeding and Feeding of Figs.	76	American Gooseberry Mildew.
28	Blackleg, Black Quarter, or Blue Quarter.	77	Scour and Wasting in Young Cattle.
29	Flax Seed.	78	Home Buttermaking.
30	Poultry Parasites—Fleas, Mites, and Lice.	79	The Cultivation of Small Fruits
31	Winter Egg Production.	80	Catch Crops.
32	Rearing and Fattening of Turkeys.	81	Potato Culture on Small Farms.
33	Profitable Breeds of Poultry.	82	Cultivation of Main Crop Potatoes.
34	The Revival of Tillage.	83	Cultivation of Osiers.
35	The Liming of Land.	84	Ensilage.
36	Field Experiments—Barley.	85	Some Injurious Orchard Insects.
37	" " Meadow Hay.	86	Dirty Milk.
38	" " Potatoes.	87	Barley Threshing.
39	" " Mangolds.	88	The Home Bottling of Fruit.
40	" " Oats.	89	The Construction of Piggeries.
41	" " Turnips.	90	The Advantages of Early Ploughing.
42	Permanent Pasture Grasses.	91	Black Scab in Potatoes.
43	The Rearing and Management of Chickens.	92	Home Preservation of Eggs.
44	"Husk" or "Hoose" in Calves.	93	Marketing Wild Fruits.
45	Ringworm on Cattle.		
46	Haymaking.		
47	The Black Currant Mite		
48	Foul Brood or Bee Pest.		
49	Poultry Fattening.		

Copies of the above Leaflets can be obtained, FREE OF CHARGE and post free, on application to the Secretary, Department of Agriculture and Technical Instruction for Ireland, Upper Merrion Street, Dublin. Letters of Application so addressed need not be stamped.

Miscellaneous Section.

TO-DAY! AND FOR YEARS AND YEARS PAST the "XL-AII" Specialities are and have been the best on the Market. Where is the gardener who does not pin his faith to one or the other of these celebrated Insecticides or Fertilisers? "XL-AII" Fertiliser has pleased all who have used it this season. The sales of "XL-AII" Fumigator prove that it is more popular than ever. "XL-AII" Liquid Nicotine Insecticide is always spoken of by gardeners and growers as the most deadly to Mealy Bug, Thrip, &c. "XL-AII" Winter Wash, for dormant trees, acts like magic, clearing the trees and bushes of all insects' eggs, moss, and fungoid growths. "XL-AII" Lawn Sand, a weed eradicator and fertiliser for weedy and poor lawns. "XL-AII" Weed Killer, used once a year; no weeds can live. Please ask your Nurseryman, Seedsman or Florist for a copy of my small pink list, giving particulars of these and many other "XL-AII" Preparations, which can be obtained from the Horticultural Trade throughout the World.

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IF YOU HAVE A GLASS ROOF THAT LEAKS. A Conservatory to repair, or any kind of glazing work to be done, CARSON'S PLASTINE will save money, time, worry and annoyance consequent on the use of ordinary putty which cracks, crumbles, and decays. It saves the expense of constant renewals. Carson's Wood Preservative in green and brown, for Palings, Trellis Work, &c. The best putty for Greenhouses is "Vitrolite." Write for Catalogue. CARSONS, 22 Bachelor's Walk, Dublin.

FOR AUTUMN PLANTING. Delphiniums, 3s.; Aquilegias, 2s. 6d.; Canterbury Bells, 2s., all per dozen, cheaper by the 100 of Bar's famous strain. Also Daffodils for planting now in the grass. Sir Watkin, Empress, John Bain, and leading varieties Daffodils and Narcissus, 15s., 100s., 2s. 100. J. H. MILLS, Greenmount, Ballydehob, Cork.

PHILIP LE CORNU'S JERSEY

FRUIT TREES, ROSE TREES, AND CARNATIONS are properly packed free of cost and properly delivered, carriage paid, to Cork, Dublin, Belfast, or Waterford.

Vast quantities of strong, healthy, fibrous-rooted Apples, on the broad-leaved Paradise. Pears, Plums, Peaches, Grape Vines, and Strawberry Plants of superior quality, similar to those which have given so much satisfaction in various parts of Ireland for many years past.

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Testimonial from HEM BLAND, Esq., Kilquade, Greystones, Ireland:—
"Your Fruit Trees have been eminently satisfactory—not one died. I hope to get more from you this Autumn."

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THE SCOTCH FLAME FLOWER

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Hardy Ornamental Plants, Shrubs, &c.

Carex Buchananii, 1s. 6d. each. Pittosporum Colensoi, 2s. P. Mayii, 1s. P. Undulatum, 1s. 6d. P. Eugenioides, 1s. 6d. P. Eugenioides Variegata, 2s. Vitis Coignetiae, 2s. 6d. Cotonaster Franchetii, 1s. 6d. Convolvulus Cneorum, 2s. Eugenia Ugai and Apioulata, 1s. each. Caryopteris Mastacanthus, 1s. Garrya Elliptica (in pots), 1s. 6d. Escallonia Langleyensis, 1s.; in varieties, 9s. per doz. Leycesteria Formosa, 6d. Kerria Japonica, 9d. Indigofera Gerardiana, 1s. Pterocarya Caucasicum, 2s. 6d. Sophora Grandiflora, 1s. Microglottis Albescens, 1s. Atriplex Halimus, 1s. Philonis Fruticosus, Stephanandra flexuosa, and tanakae, 1s. each. Pinus Insigne, 2 to 3 feet, strong; transplanted last April, 1s. each. Eucyphia Pinnatifida, 2s. 6d. Choisyia Ternata (bushy), 1s. 6d. Greyillea Rosmarinifolia, 1s. Pampas Grass, 9d. New Zealand Flax, 1s. Buddleia Variabilis Veitchii, 1s. B. Globosa, 9d. Abutilon Vitifolium, 1s. Spiraea Aitchinsonii, 1s. Piptanthus Nepalensis, 1s. Spartium Junceum, 9d. White Broom (extra strong), 1s. Ozothamnus Rosmarinifolius, 1s. Primula Japonica—2 years old, flower next spring, 4s. per doz. All strong, young plants. Transplanted last spring. Mixed collections of hardy shrubs in choice kinds to suit any aspect. My selection for 5s. per doz.

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Best Quality Bulbs Best Hardy Perennials.

Our Bulbs are First Class Selected Stuff and Extraordinary Value for Money. Give us a Trial Order. You will be surprised at the Value. Our Plants are strong Transplanted Stuff from Northern Climate, which do well anywhere.

BULBS.

50 Double daffodils	1/-	8 Hyacinths, red,	
50 Double daffodils,		white or blue	1 -
extra large	2/-	100 Ixias	- 1 -
50 Sir Watkin nar-		100 Sparaxis	1/-
cissus	2/3	50 Gladioli—The	
50 Hors-fieldii	1/9	Bride	1/3
50 Ornatus	1	50 Eggs and bacon	
100 Princes	1/6	narcissus	1/6
50 Double white	1 -	50 Butter and eggs	1/3
50 Parrot tulips	1/3	50 Barri conspicuous	1/6
50 Mixed tulips	1/-	50 Empress	3/
50 Extra special		50 Emperor	2, 6
single early tulips	1/6	100 Pheasant eye	1/3
50 May flowering		50 Giant snowdrops	1, -
tulips	1/6	100 Crocus, white,	
50 Darwin tulips	1/9	blue or mixed	1/-
50 Double tulips	1/6	100 Crocus, yellow	1/-
100 Spanish-iris, white,		100 Spanish iris, mixed	6/4
blue or yellow	1/-	50 Mixed early gladi-	
100 Spanish iris in 10		oli	1 -
named kinds	1/3	50 White tulips	1/6
12 Mixed hyacinths	1/-	50 Yellow tulips	1/6
12 Named hyacinths	1/9	50 Red tulips	1/6

PLANTS.

50 Myosotis	0/6	25 Pansies, blue	0/6
12 Gaillardias	0/6	25 Pansies, giant,	
20 Coreopsis grand	0/6	mixed	0/6
25 White foxgloves	0/6	20 Viola—Ma u v e	
25 Spotted foxgloves	0/6	Queen	0/6
20 Alyssum Sax-		25 Sweet Williams	0/6
compacta	0/6	20 Lupins, white or	
3 Blue primroses	0/6	blue	0/6
12 Hybrid primroses	0/6	20 Lupins, mixed	0/6
15 Mixed polyanthus	0/6	6 Lupins Tree—	
25 Iceland poppies,		Snow Queen	0/6
yellow, white,		12 Scarlet geums	0/6
orange or mixed	0/6	6 Hardy maidenhair	0/6
12 Iceland poppies,		12 Gypsophila pani-	
new, excelsior		culata	0/6
strain, lovely		12 Border carnations	0/6
new colours	0/6	20 Marguerite car-	
12 Catanache cor-		nations	0/6
rulea	0/6	6 Double holly-	
6 M i c h a e l m a s		hocks, white,	
daisies	0/6	blush pink, sal-	
12 Winter cherry	0/6	mon, cream or	
8 Double hollyhocks	0/6	yellow	0/6
10 Single hollyhocks	0/6	25 Canterbury bells,	
6 Delphiniums	0/6	white, rose or	
25 Brompton stocks	0/6	mixed	0/6
25 Pansies, white	0/6	20 Canterbury bells,	
25 Pansies, yellow	0/6	cup and saucer	0/6
50,000 wallflowers, either Ruby Red, Golden King, Eastern Queen, Harbinger, Red Gem, Primrose Dame, or Vulcan—50, 1/3; 100, 2/-; 250, 4/6; 500, 8/-.			

Carriage paid. All fine transplanted stuff.

All Orders for Plants from 3s., Bulbs from 5s., Carriage paid. For less amounts—Bulbs, 6d.; Plants, 4d. extra. Satisfaction or money returned.

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FOR SPRAYING FRUIT TREES IN WINTER.

All Fruit Trees should be treated with this preparation. It effectively

destroys every vestige of
MOSS, LICHEN, AND GREEN SLIME,
as well as the eggs of
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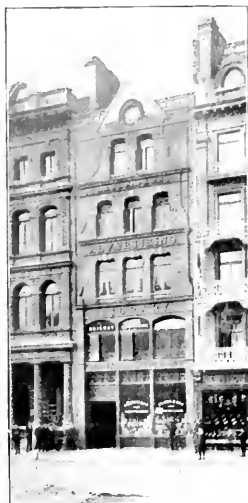
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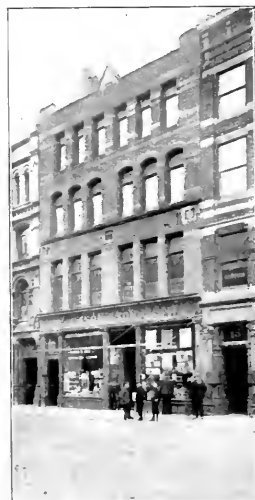
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Reports of Shows.

Athy.

THIS horticultural show was held in connection with the South Kildare Agricultural Society's Show, and marked a great advance on all previous shows in quantity and quality, showing a marked advance on its predecessors. In the open classes sweet pea was the outstanding feature, Mr. White Durrow just winning from Mr. M. Moran and Dr. O'D. Browne of Naas, all three showing far finer flowers than they exhibited in Dublin. A few of the best varieties were Mrs. C. W. Breadmore, Elsie Herbert, Constance Oliver, Marjorie Willis, M. A. Linzee, Prince of the Asturias, Audrey Crier, and Minie Christie. In the amateur sections, sweet pea was grandly shown by Mrs. White Durrow and Rev. J. O'Callaghan, Athy, winning 1st and 2nd prizes for six varieties, Frank Dolby, Countess Spencer, King Edward VII., and Helen Lewis being best. There were over twenty entries. Annuals were well shown, Miss Kilbride winning easily, and also for twelve bunches of hardy flowers. Miss Keating and Mrs. Twamley exhibited some nice herbaceous flowers, Mrs. Waller good carnations, while Mr. W. Hayton, Bishop Court, and Miss Kilbride, Athy, won all the prizes for collections of vegetables.

Horticultural exhibits by nurserymen filled one tent, Mr. S. A. Jones, Gowran, gaining the medal for a beautiful display, pot plants, dahlias, begonias and sweet pea being extra fine. Messrs. Watson, Clontarf, had grand dahlias and carnations, besides floral designs. A. Dickson & Sons had a fine collection of sweet pea and some well grown herbaceous flowers all well staged.

Clare Horticultural Society.

THE above society held an exhibition in the Court-house, Ennis, on Aug. 20th, but although the weather was bad, the show was particularly fine. Sweet peas again were a very strong class, and the medals offered by R. Sydenham, Ltd., for 9 distinct kinds, excited very keen competition, the premier award going to the Rt. Hon. Lord Inchiquin (gardener, Mr. J. Carter), who was closely pressed by Col. Milton-Henn, Castle Troy House, Co. Limerick, second, and Rev. R. Scott, Ennis, third. The fourth prize fell to a cottager, Mr. E. Acton, who certainly made a very creditable display. Lord Inchiquin was again first in the class for 18 bunches, Major S. C. Hickman, Fenloe, being a good second.

Throughout each section (cottagers, amateurs and professionals) there were splendid exhibits of roses,

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Thousands in use giving entire satisfaction.

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dahlia and annuals, and competition was very close, one very promising feature being that the exhibits of the cottagers and amateurs compared very favourably with those in the professional class; in fact, one amateur, Mrs. H. B. Crawford, staged six vases of sweet peas which were undoubtedly superior to any others in the show.

In the vegetable section the exhibits were of a high order of merit, one marked feature being carrots exhibited by a cottager, C. Doyle, of a quality that could hardly be excelled at any show. Potatoes, too, were of magnificent quality. "The Ashbourne Company" offered a valuable prize for "best collection of vegetables," which fell to H. B. Henn, Esq., Paradise, Co. Clare, after very severe competition.

In the class for "decorated dinner tables" rivalry was very keen, for Co. Clare ladies were determined that the prize should not leave the county on this occasion, the eventual winner being Mrs. G. U. Macnamara, of Corofin, with Miss May Greene second, and Miss Hickman, of Fenloe, third, who all relied upon sweet peas, the only variation in this class being a table decorated by Miss M. V. G. Griffith with Clematis Jaakmanii and yellow marguerites, which was very highly commended. Lady Inchiquin and Mrs. H. S. Vandeleur kindly undertook to make the awards in this class, and their decisions met with the general approval of visitors.

Messrs. Dobbie, of Rothesay, N.B., offered a splendid silver-gilt medal to the exhibitor obtaining the highest number of points at the show, which fell to that well-known and skilful amateur, Rev. R. Scott, with a total of sixty nine points, the Rt. Hon. Lord Inchiquin being runner-up with fifty-two points.

Medals were also awarded to Anketell-Jones, F.R.H.S.,

for a magnificent stand of cactus dahlia, gladioli and double begonias, which must have brought him a fair share of business notwithstanding the bad weather, for visitors were especially interested in his beautiful cactus dahlia. Mr. W. Bill, for a collection of a hundred violas, which, unfortunately, did not last the day out owing to want of water; H. V. Phelps, Esq., D.L., of Castleconnell (gardener, Mr. J. McIntosh), for a new tomato (Waterpark Hybrid), which is certainly a decided acquisition owing to its heavy fruiting qualities and large size; also Mr. Thos. Collins, of Kilmaboy, Co. Clare, for several new varieties of potatoes raised by himself, and said to have remarkable disease-resisting qualities.

There was a very fair display of fruit, an outstanding feature being a bunch of black Hamburg grapes exhibited by Lord Inchiquin (gardener, Mr. Carter).

Mrs. E. W. Frost, Newmarket-on-Fergus, exhibited half a dozen varieties of home-made wines, which were of first-rate quality, and secured an award of merit.

The judges were Major S. C. Hickman and Rev. R. Scott (cottagers), Messrs. T. Barker and J. McIntosh, gardeners to W. A. Fitzgerald, Esq., and J. V. Phelps, Esq. (amateurs), and Messrs. C. Faulkner and J. Murphy, gardeners to Lord Dunally and Sir Chas. Barrington—in the professional class. The decisions appeared to give general satisfaction.

Enniskillen.

The third show of honey, fruit, flowers, vegetables, and farm produce was held in connection with the County Fermanagh Industrial Exhibition at Enniskillen on 10th September. Unfortunately for the show, rain

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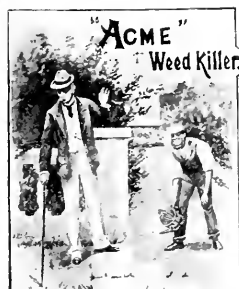
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STRENGTH, 1 in 25. 1 Gall. to 25 Gallons of Water.
1 Gall. 2s. 3d., tin free; 5 gall. 7s. 6d., drum, 2s. 6d.; 10 gall. 13s. 4d., drum, 5s.; 40 gall. 50s. cask
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DOUBLE STRENGTH. 1 Gall. to 50 Gallons of Water.
½ gall. 2s. tin free; 1 gall. 3s. 6d., drum, 6d.; 5 gall. 24s., drum, 2s. 6d.; 10 gall. 25s. 6d., drum, 5s.,
40 gall. 96s., cask, 5s. Carriage paid on 2 gallons and upwards. Empties allowed for when returned.

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Sizes	..	Tins free	..	Per tin
No. 1	..	To make 25 gallons	..	1s. 6d.
No. 2	..	" 50 "	..	3s. 3d.
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Soluble in cold water. No. 3 carriage paid. Prices on larger quantities on application.

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fell heavily and almost continuously from the time the exhibitors were gathering till near the close of the proceedings. Nevertheless, the show as a whole was a great success, the entries amounting to over 1,500—an increase of 440 over last year. The outstanding feature of the gathering, under such adverse weather conditions, was the enthusiasm displayed by exhibitors and visitors alike, some of whom travelled long journeys in a drenching rain to take part in and see the show.

The honey section was a splendid success, thanks to the fine season, which brought out 65 entries, in five classes. The schedule implied that all comb honey must be protected with glass. This led to the majority of the competitors displaying their exhibits glazed with laced paper, which gave this section a pretty appearance. The exhibits in all the classes were up to a high standard.

Fruit, as expected, was a great improvement on last year in quality and number of entries. The treble exhibits in this section put up by Messrs. W. G. Walsh and Sons, Lirgool, Enniskillen, and Mr. Bleakley, Killyleagh, both of whom made fine displays of popular varieties of fruit especially apples in their best form, which were closely scrutinised by intending planters.

The flower section, although creditable, was, owing to the recent inclement weather, not up to the usual standard, several entries being absent. The magnificent bank of hardy flowers staged by Messrs. Alex. Dickson and Sons, Ltd., Newtownards, in their usual style, formed a highly educational part of this gathering where many notes have been taken the phloxes, pyrethrums, gladioli, lobelia, and other hardy flowers being much admired.

The vegetables showed a great improvement all round on any of the previous shows.

On analysing the list of winners, it is surprising to see

how well amateurs have been able to hold their own against those of more experience and possessing better facilities.

P. B.

Monaghan.

This show was held on Wednesday, September 9th, and Dr. Campbell Hall, Major Richardson, and those responsible for the show must be congratulated on such a splendid display when we take into account how unfavourable the weather was for several weeks prior to the show. In the plant classes there was nothing striking. The tables of plants being best in this class artistic arrangement was to be specially noted so that the finest plants which were on the second prize table had to be passed over. Hardy flowers were well shown, and the twelve bunches of hardy herbaceous flowers shown by Lady Rossmore were remarkably fine. Sweet peas were only moderate, neither flowers nor stalks being good, but then few of the newer varieties were exhibited. Dahlias were very good, especially those from the Sisters of St. Louis Convent, Monaghan. Asters and pansies were largely shown, those from Mr. R. H. Parke being very fresh and well staged.

Hardy fruit, especially apples, made a fine display, as classes were numerous. Mr. E. Taylor (Portadown), Mr. R. Graham, Mr. R. H. Parke, Mr. C. M'Kay, and Lady Rossmore won many prizes. Beauty of Bath, Lady Sudeley, Worcester Pearmain, King of Pippins (dessert), Early Victoria, Grenadier, Lord Grosvenor, Lord Derby, Castle Major, and Lane's Prince Albert (cooking), were best shown. Only a couple of dishes of good Bramley were to be seen, a like remark applying to Ecklinville Seedlings. Vegetables were very numerous, and, with the exception of onions, grandly shown by Captain F. M. Irwin and Mrs. O'Neill, and were only of good average merit, quality

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generally being lacking, though the samples were large enough. The roses shown by Hugh Dickson, Belfast, A. Dickson & Sons, Newtownards, and S. McGredy & Sons, Portadown, were lovely. The Lady Rossmore Cup for 48, and also class for 24, these firms won in the order their names are written.

Mr. Blakeley had a grand exhibit of hardy fruit not for competition, apples being especially fine, including a new seedling named Lord Roberts. W. T.

Naas.

On Wednesday, August 10th, the annual show of the Naas District Horticultural Society was held in beautiful weather, and the hon. secretaries, Miss De Burgh and Miss Moore, have reason to be proud of the fine display of flowers and vegetables, fruit being but sparingly shown. For some reason or other all the work in connection with the staging and management of this show falls on the hon. secretaries and Dr. Browne, and as the committee is a large one this should not be.

The attendance was, I believe, a record one for this society, and shows that interest in its work is spreading, though from the very beginning the show has been well attended by all sections of the public. In the open sections the chief prize winners were Col. Hon. C. H. Crichton, Lady Mayo, Dr. O. D. Browne, Mrs. Greer, Mr. S. J. Brown, Baroness de Roebeck, and Mr. R. J. Maunsell. In sections confined to district, Major Henry, Dr. Logan, Mr. F. Shortt, Mr. M. Moran, Mrs. McCann and Mr. H. Winder. The cottagers' classes had a record entry, and the quality was really excellent.


Mrs. Moran, Mr. M. Hannon, Mr. M. Mooney, Mr. P. Lynch, and Mr. W. Slatter winning first prizes in most of the classes.

Sweet peas were very well shown for so late in the season. Mr. Mitchison winning easily for twelve bunches for Col. Hon. C. H. Crichton; Mr. F. Milne, gardener to Dr. Browne, was second, Mrs. Hardcastle Sykes, Minnie Christie, Etta Dyke, Clara Curtis, Paradise, Mrs. H. Bell, Audrey Crier, Frank Dolby and Helen Pierce being surprisingly good. Annuals were another splendid class, Dr. Browne being first and Col. Crichton a good second, the latter leading for herbaceous flowers and for a collection of nine varieties of vegetables. Lady Mayo (gardener, Mr. Doyle was second in both classes, but lacked the evenness of the first prize lots. Baroness de Roebeck and Mr. S. J. Brown won for six bunches sweet pea open, while six bunches confined was won by Mr. M. Moran with probably the finest sweet peas in the show. Judge—Mr. J. L. McKellar, Mr. R. Anderson, Mr. Colohan, and Mr. G. Carroll. W. T.

Trim.

The committee and secretary Mr. Healy are to be congratulated on the restarting of this show which last year was allowed to lapse from various causes. Entries in the horticultural portion were very good, while the quality was excellent, this being especially so with the collection of vegetables shown by Mrs. Dane (gardener, Mr. Bierney), which was about the best I have seen this year, celery, carrots, parsnips, tomatoes, leek, beans, peas, and potatoes being first class, showing

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high cultivation, and very well staged. Mrs. Dane was very successful in other classes, winning a dozen first prizes. Mr. Parr won first prize for twelve bunches of sweet pea with fine flowers on good stems. The effect of the flowers in this class were spoiled through a rule of the society preventing vases being raised off the staging, consequently all the flowers looked flat and non-effective. Why not have raised staging for the sweet peas at least? The amateur and cottagers classes were well filled, and the flowers especially were very good, but exhibitors in both these sections should take a lesson in staging from the winners of prizes in the open section.

W. T.

Catalogues.

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BULBS. Edmondson Bros., Dublin.—A neat little catalogue brightly illustrated, giving descriptive lists of all the standard varieties of bulbs, with occasional notes on culture.

BULB LIST. Arthur S. Ritchie & Co., Belfast.—An attractive catalogue with decorative cover and profusely illustrated with photographic reproductions of bulbous plants in flower.

WATSON'S CARNATIONS. Wm. Watson & Sons, Clontarf.—A descriptive catalogue of cut-out-door or hardy carnations, illustrated by photographic reproductions of specimens grown in the Clontarf nurseries.

BULBS.—The autumn catalogue of Messrs. James Veitch & Son, Chelsea.

PERRY'S BULBS AND TUBERS.—An autumn catalogue of plants for general decoration, from the Hardy Plant Farm, Enfield.

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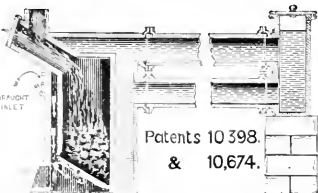
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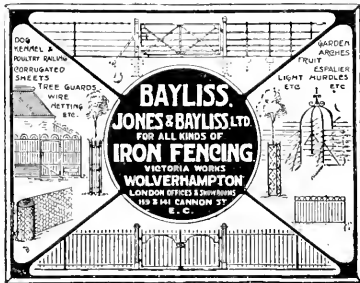
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